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MADRAS RECORD OFFICE

DESCRIPTIVE MEMOIRS OF IRRIGATION WORKS

IN THE

KAULI MINOR BASIN

OF THE

KUNDAUR RIVER BASIN.

THE Kauli Minor Basin, which is a part of the Kundaur River Basin, has been designated after the name of the River Kauli. It covers an area of about 502 square miles, and comprises all lands draining into the Kauli on both banks above its junction with the Kundaur River on the right bank above Nandyal, and is situated in portions of the Nandyal and Nandikotkur Taluks of the Kurnool district.

Sources of supply.

The supply to the irrigation works in this Minor Basin is almost entirely from local rainfall: a small supply is also obtained from perennial springs which have their source on the Nallamalais from 2000 to 3000 feet above the level of the sea.

Rainfall.

The average rainfall in Nandyal and Nandikotkur Taluks, as registered by the Revenue Department for the years from 1871 to 1884, was 32·62 inches, about three-fourths of which fell during the period of south-west monsoons, and the heaviest recorded rainfall in 24 hours was 2·65 inches.

The formula $D = C.\ M^{\frac{2}{3}} — cm^{\frac{2}{3}}$ has been adopted for calculating the discharges from the catchment areas within the Minor Basin, the value of C (the working co-efficient) being taken at 500 and 550, depending on the nature of the ground, and c at 100 for the area of basins of upper tanks which operate as moderators of flood discharges.

Percentage of rainfall available.

The percentage of rainfall available for irrigation works in this Minor Basin may be calculated at from 10 to 40 per cent., according to the intensity of the annual fall and other circumstances.

Grouping and financial details of the Irrigation works.

In this Minor Basin there are twenty-five different irrigation works, having a total irrigable area of 5,422 acres. These works have been grouped for professional treatment, as shown on the group irrigation map, plate I, and their financial details are given in the following statement in the order of grouping.

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Statement of Financial Details of the Irrigation

Grouping for Professional Treatment. Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.	No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Total Irrigable Ayacut.	Full Assessment on Land and Water.	Average Cul- First crop. Extent.	Assessment. Land.	Water.
1	2	3	4	5	6	7	8	9	10	11
						Acres.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
PEDDADEVALAPURAM YERRA CHERUVU.	Yerra Cheruvu.	1	Peddadevalapuram Yerra Cheruvu.	...	G. W.	69	390 0 0	69	116 0 0	275 0 0
					G. D. W.	9	37 0 0	9	10 0 0	27 0 0
					I. W.	86	81 0 0	70	27 0 0	54 0 0
					I. D. W.	2	8 0 0	2	...	8 0 0
					Total...	166	516 0 0	150	153 0 0	364 0 0
		2	Tummala Cheruvu ...	...	G. W.	58	319 0 0	57	87 0 0	228 0 0
					G. D. W.	169	328 0 0	18	25 0 0	55 0 0
					I. W.	87	244 0 0	71	57 0 0	115 0 0
					I. D. W.	40	86 0 0	5	2 0 0	14 0 0
					Total...	354	977 0 0	151	171 0 0	412 0 0
				...	Total of Group...	520	1,493 0 0	301	324 0 0	776 0 0
LINGAPURAM KOTHA CHERUVU.	Lingapuram Kotha Cheruvu.	1	Lingapuram Kotha Cheruvu.	...	G. W.	133	691 0 0	127	152 0 0	509 0 0
					G. D. W.	4	17 0 0	4	4 0 0	13 0 0
					I. W.	55	115 0 0	55	38 0 0	77 0 0
					I. D. W.	7	25 0 0	7	3 0 0	22 0 0
					Total...	199	848 0 0	193	197 0 0	621 0 0
		2	Chandanappa Cheruvu.	...	G. W.	92	488 0 0	93	120 0 0	369 0 0
					G. D. W.	6	26 0 0	6	6 0 0	19 0 0
					I. W.	60	141 0 0	60	47 0 0	94 0 0
					I. D. W.	1	6 0 0	1	...	6 0 0
					Total...	159	661 0 0	160	173 0 0	488 0 0
		3	Potha Cheruvu ...	...	G. W.	93	487 0 0	76	94 0 0	306 0 0
					G. D. W.	4	15 0 0	4	3 0 0	12 0 0
					I. W.	142	442 0 0	122	91 0 0	186 0 0
					I. D. W.	1	3 0 0	1	...	3 0 0
					Total...	240	947 0 0	203	188 0 0	507 0 0
		4	Narayanapuram Kotha Cheruvu.	...	G. W.	20	108 0 0	20	27 0 0	82 0 0
					G. D. W.	34	129 0 0	29	24 0 0	87 0 0
					I. W.	32	114 0 0	27	25 0 0	66 0 0
					I. D. W.	1	3 0 0	1	...	2 0 0
					Total...	87	354 0 0	77	76 0 0	237 0 0
		5	Bramhala Cheruvu ...	...	G. W.	68	368 0 0	61	85 0 0	244 0 0
					G. D. W.	13	50 0 0	11	11 0 0	33 0 0
					I. W.	110	25 0 0	106	56 0 0	123 0 0
					I. D. W.	1	6 0 0	1	1 0 0	4 0 0
					Total...	192	449 0 0	179	153 0 0	404 0 0
		I	Nemalla Kunta ...	...	G. W.	59	299 0 0	29	38 0 0	116 0 0
					G. D. W.	10	39 0 0	10	9 0 0	30 0 0
					I. W.	17	56 0 0	13	12 0 0	23 0 0
					I. D. W.	2	5 0 0	2	...	5 0 0
					Total...	88	399 0 0	54	59 0 0	174 0 0
		II	Ramapuram Tank ...	...	G. W.	13	70 0 0	12	19 0 0	50 0 0
					G. D. W.	5	24 0 0	5	8 0 0	16 0 0
					I. W.	15	38 0 0	15	13 0 0	26 0 0
					I. D. W.	5	16 0 0	5	...	16 0 0
					Total...	38	148 0 0	37	40 0 0	108 0 0
					Total of Group...	1003	3,806 0 0	903	886 0 0	2,539 0 0

Works in the Kauli Minor Basin.—*(Continued on the next page from column 22).*

TIVATION DURING THE 5 YEARS 1882 TO 1886.

Second crop.		Gross Assessment.			Deductions and Remissions.				
							Occasional.		
Extent.	Water Rate.	Land.	Water, 11 + 13.	Total, 14 + 15.	Fixed.	Temporary.	Extent.	Amount.	Total.
12	13	14	15	16	17	18	19	20	21
Acres.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
...	...	116 0 0	275 0 0	391 0 0	...	27 0 0	...	...	27 0 0
...	...	10 0 0	27 0 0	37 0 0	...	...	...	...	...
...	...	27 0 0	54 0 0	81 0 0	...	...	...	...	...
...	...	...	8 0 0	8 0 0	...	...	...	...	...
...	...	153 0 0	364 0 0	517 0 0	...	27 0 0	...	...	27 0 0
...	...	87 0 0	228 0 0	315 0 0	...	...	27	144 0 0	144 0 0
...	...	25 0 0	55 0 0	80 0 0	...	...	...	...	...
...	...	57 0 0	115 0 0	172 0 0	...	...	...	...	...
...	...	2 0 0	14 0 0	16 0 0	...	...	...	...	...
...	...	171 0 0	412 0 0	583 0 0	...	...	27	144 0 0	144 0 0
...	...	324 0 0	776 0 0	1,100 0 0	...	27 0 0	27	144 0 0	171 0 0
...	...	152 0 0	509 0 0	661 0 0	...	...	19	100 0 0	100 0 0
...	...	4 0 0	13 0 0	17 0 0	...	...	...	...	...
...	...	38 0 0	77 0 0	115 0 0	...	...	...	...	...
...	...	3 0 0	22 0 0	25 0 0	...	...	...	...	...
...	...	197 0 0	621 0 0	818 0 0	...	...	19	100 0 0	100 0 0
...	...	120 0 0	369 0 0	489 0 0	...	192 0 0	...	...	192 0 0
...	...	6 0 0	19 0 0	25 0 0	...	...	...	...	...
...	...	47 0 0	94 0 0	141 0 0	...	...	...	...	...
...	...	...	6 0 0	6 0 0	...	...	...	...	...
...	...	173 0 0	488 0 0	661 0 0	...	192 0 0	...	...	192 0 0
...	...	94 0 0	306 0 0	400 0 0	...	...	32	167 0 0	167 0 0
..	...	3 0 0	12 0 0	15 0 0	...	...	...	...	...
...	...	91 0 0	186 0 0	277 0 0	...	...	3	18 0 0	18 0 0
...	...	...	3 0 0	3 0 0	...	...	...	...	...
...	...	188 0 0	507 0 0	695 0 0	...	...	35	185 0 0	185 0 0
...	...	27 0 0	82 0 0	109 0 0	...	...	4	21 0 0	21 0 0
...	...	24 0 0	87 0 0	111 0 0	...	...	...	...	...
...	...	25 0 0	66 0 0	91 0 0	...	...	2	8 0 0	8 0 0
...	...	...	2 0 0	2 0 0	...	...	...	...	...
...	...	76 0 0	237 0 0	313 0 0	...	...	6	29 0 0	29 0 0
...	...	85 0 0	244 0 0	329 0 0	...	...	14	76 0 0	76 0 0
...	...	11 0 0	33 0 0	44 0 0	...	...	1	2 0 0	2 0 0
...	...	56 0 8	123 0 0	179 0 0	...	...	1	3 0 0	3 0 0
...	...	1 0 0	4 0 0	5 0 0	...	...	...	1 0 0	1 0 0
...	...	153 0 0	404 0 0	557 0 0	...	...	16	82 0 0	82 0 0
...	...	38 0 0	116 0 0	154 0 0	...	...	3	15 0 0	15 0 0
...	...	9 0 0	30 0 0	39 0 0	...	...	...	...	...
...	...	12 0 0	23 0 0	35 0 0	...	...	...	...	...
...	...	...	5 0 0	5 0 0	...	...	...	...	...
... ...	...	59 0 0	174 0 0	233 0 0	...	...	3	15 0 0	15 0 0
...	..	19 0 0	50 0 0	69 0 0	...	...	...	...	...
...	...	8 0 0	16 0 0	24 0 0	...	...	...	...	...
...	...	13 0 0	26 0 0	39 0 0	...	...	...	...	...
...	...	...	16 0 0	16 0 0	...	...	...	...	...
...	...	40 0 0	108 0 0	148 0 0	...	...	...	...	...
...	...	886 0 0	2,539 0 0	3,425 0 0	...	192 0 0	79	411 0 0	411 0 0

Statement of Financial Details of the Irrigation

Grouping for Professional Treatment. Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.	No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Average cultivation during the 5 years 1882 to 1886. Net Revenue due to Irrigation including working expenses, 15—21.	Do. per Acre Irrigated, 22+9.	Proposed. Increase over present extent of Irrigation, column 9.	Land unfit for cultivation.	Ultimate extent of Irrigation.	Expected Net Revenue from do. including working expenses. Land.
						22	23	24	25	26	27
						Rs. A. P.	Rs. A. P.	Acres.	Acres.	Acres.	Rs. A. P.
PEDDADEVALAPURAM YERRA CHERUVU.	Yerra Cheruvu.	1	Peddadevalapuram Yerra Cheruvu.	...	G. W.	248 0 0	4 0 0	...	...	69	116 0 0
					G. D. W.	27 0 0	3 0 0	30	...	39	10 0 0
					I. W.	54 0 0	1 0 0	16	...	86	27 0 0
					I. D. W.	8 0 0	4 0 0	11	...	13	...
					Total...	337 0 0	3 0 0	57	...	207	153 0 0
		2	Tummala Cheruvu ...	...	G. W.	84 0 0	1 0 0	1	...	58	87 0 0
					G. D. W.	55 0 0	3 0 0	151	...	169	25 0 0
					I. W.	115 0 0	2 0 0	16	...	87	57 0 0
					I. D. W.	14 0 0	3 0 0	35	...	40	2 0 0
					Total...	268 0 0	2 0 0	203	...	354	171 0 0
					Total of Group...	605 0 0	2 0 0	260	...	561	324 0 0
LINGAPURAM KOTHA CHERUVU.	Lingapuram Kotha Cheruvu.	1	Lingapuram Kotha Cheruvu.	...	G. W.	409 0 0	3 0 0	6	...	133	152 0 0
					G. D. W.	13 0 0	3 0 0	80	...	84	4 0 0
					I. W.	77 0 0	1 0 0	...	...	55	38 0 0
					I. D. W.	22 0 0	3 0 0	50	...	57	3 0 0
					Total...	521 0 0	3 0 0	136	...	329	127 0 0
		2	Chandanappa Cheruvu..	...	G. W.	177 0 0	2 0 0	1	...	93	120 0 0
					G. D. W.	19 0 0	3 0 0	90	...	96	6 0 0
					I. W.	94 0 0	2 0 0	...	...	60	47 0 0
					I. D. W.	6 0 0	6 0 0	26	...	27	...
					Total...	296 0 0	2 0 0	117	...	276	173 0 0
		3	Potha Cheruvu ...	...	G. W.	139 0 0	2 0 0	17	...	93	94 0 0
					G. D. W.	12 0 0	3 0 0	70	...	74	3 0 0
					I. W.	168 0 0	1 0 0	20	...	142	91 0 0
					I. D. W.	3 0 0	3 0 0	30	...	31	...
					Total...	322 0 0	2 0 0	137	...	340	188 0 0
		4	Narayanapuram Kotha Cheruvu.	...	G. W.	61 0 0	3 0 0	20	...	40	27 0 0
					G. D. W.	87 0 0	3 0 0	25	...	54	24 0 0
					I. W.	58 0 0	2 0 0	5	...	32	25 0 0
					I. D. W.	2 0 0	2 0 0	...	...	1	...
					Total...	208 0 0	3 0 0	50	...	127	76 0 0
		5	Bramhala Cheruvu ...	...	G. W.	168 0 0	3 0 0	7	...	68	85 0 0
					G. D. W.	31 0 0	3 0 0	2	...	13	11 0 0
					I. W.	120 0 0	1 0 0	4	...	110	56 0 0
					I. D. W.	3 0 0	3 0 0	...	...	1	1 0 0
					Total...	322 0 0	3 0 0	13	...	192	153 0 0
		I	Nemalla Kunta ...	...	G. W.	101 0 0	4 0 0	30	...	59	38 0 0
					G. D. W.	30 0 0	3 0 0	...	...	10	9 0 0
					I. W.	23 0 0	2 0 0	4	...	17	12 0 0
					I. D. W.	5 0 0	3 0 0	...	...	2	...
					Total...	159 0 0	3 0 0	34	...	88	59 0 0
		II	Ramapuram Tank ...	...	G. W.	50 0 0	4 0 0	1	...	13	19 0 0
					G. D. W.	16 0 0	3 0 0	20	...	25	8 0 0
					I. W.	26 0 0	2 0 0	...	...	15	13 0 0
					I. D. W.	16 0 0	3 0 0	12	...	17	...
					Total...	108 0 0	3 0 0	33	...	70	40 0 0
					Total of Group...	1,936 0 0	2 0 0	520	...	1,422	886 0 0

Works in the Kauli Minor Basin.

Cultivation.			Estimated Outlay to secure Standard of Efficiency.					
Expected net Revenue from do. including working expenses.		Expected increase of Revenue, 29 — (14+22).						Remarks.
Water.	Total.		Original Works.	Repairs.	Total.	Outlay percentage on ultimate net Revenue, 33 × 100 ÷ 29.	Expected increase of Revenue, percentage of outlay 30 × 100 ÷ 33.	
28	29	30	31	32	33	34	35	36
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Percent	Percent	
275 0 0	391 0 0	27 0 0	...	...	...	...	...	
117 0 0	127 0 0	90 0 0	...	...	...	...	...	
70 0 0	97 0 0	16 0 0	...	...	...	...	...	
52 0 0	52 0 0	44 0 0	...	...	...	...	...	
514 0 0	657 0 0	177 0 0	...	...	...	...	...	
232 0 0	319 0 0	148 0 0	...	...	...	...	...	
508 0 0	533 0 0	453 0 0	...	...	...	...	...	
147 0 0	204 0 0	32 0 0	...	...	...	...	...	
119 0 0	121 0 0	105 0 0	...	...	...	...	...	
1,006 0 0	1,177 0 0	738 0 0	1,094 0 0	3,435 0 0	4,529 0 0	385	16	
1,520 0 0	1,844 0 0	915 0 0	1,094 0 0	3,435 0 0	4,529 0 0	246	20	30 Sep. 1890
527 0 0	679 0 0	118 0 0	...	...	...	...	...	
253 0 0	257 0 0	240 0 0	...	...	...	...	...	
77 0 0	115 0 0	...	...	...	...	...	...	
172 0 0	175 0 0	150 0 0	...	...	...	...	...	
1,029 0 0	1,226 0 0	508 0 0	1,406 0 0	2,651 0 0	4,057 0 0	331	13	31 Dec 1888
373 0 0	403 0 0	196 0 0	...	...	...	...	...	
289 0 0	295 0 0	270 0 0	...	...	...	...	...	
94 0 0	141 0 0	...	...	...	...	...	...	
162 0 0	162 0 0	156 0 0	...	...	...	...	...	
918 0 0	1,091 0 0	622 0 0	...	1,588 0 0	1,588 0 0	144	39	31 Dec 1888
374 0 0	468 0 0	235 0 0	...	...	...	...	...	
222 0 0	225 0 0	210 0 0	...	...	...	...	...	
206 0 0	297 0 0	38 0 0	...	...	...	...	...	
93 0 0	93 0 0	90 0 0	...	...	...	...	...	
895 0 0	1,083 0 0	573 0 0	695 0 0	3,383 0 0	4,078 0 0	377	14	30 Sep 1890
162 0 0	189 0 0	101 0 0	...	...	...	...	...	
162 0 0	186 0 0	75 0 0	...	...	...	...	...	
76 0 0	101 0 0	18 0 0	...	...	...	...	...	
2 0 0	2 0 0	...	...	...	...	...	...	
402 0 0	478 0 0	194 0 0	370 0 0	305 0 0	675 0 0	141	29	31 March 1888
272 0 0	357 0 0	104 0 0	...	...	...	...	...	
39 0 0	50 0 0	8 0 0	...	...	...	...	...	
127 0 0	183 0 0	7 0 0	...	...	...	...	...	
4 0 0	5 0 0	1 0 0	...	...	...	...	...	
442 0 0	595 0 0	120 0 0	289 0 0	2,536 0 0	2,825 0 0	475	4	30 June 1889
236 0 0	274 0 0	135 0 0	...	...	...	...	...	
30 0 0	39 0 0	...	...	...	...	...	...	
31 0 0	43 0 0	8 0 0	...	...	...	...	...	
5 0 0	5 0 0	...	...	...	...	...	...	
302 0 0	361 0 0	143 0 0	550 0 0	390 0 0	940 0 0	260	15	31-3-90
54 0 0	73 0 0	4 0 0	...	...	...	...	...	
76 0 0	84 0 0	60 0 0	...	...	...	...	...	
26 0 0	39 0 0	...	...	...	...	...	...	
52 0 0	52 0 0	36 0 0	...	...	...	...	...	
208 0 0	248 0 0	100 0 0	80 0 0	474 0 0	554 0 0	223	18	31-Sep 1890
4,196 0 0	5,082 0 0	2,260 0 0	3,390 0 0	11,327 0 0	14,717 0 0	289	15	

Statement of Financial Details of the Irrigation

Grouping for Professional Treatment. Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.	No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Total Irrigable Ayacut.	Full Assessment on do. Land and Water.	Average Cultivation. First crop. Extent.	Assessment. Land.	Assessment. Water.
1	2	3	4	5	6	7	8	9	10	11
						Acres.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
BOYAREVULA TANK.	Boyarevula Tank.	1	Boyarevula Tank ...	...	G. W. ...	65	354 0 0	63	95 0 0	251 0 0
					G. D. W. ...	17	62 0 0	17	9 0 0	52 0 0
					I. W. ...	44	90 0 0	43	30 0 0	60 0 0
					I. D. W. ...	...	...	...	...	...
					Total...	126	506 0 0	123	134 0 0	363 0 0
		2	Mudukur Tank ...	...	G. W. ...	261	1,410 0 0	158	261 0 0	634 0 0
					G. D. W. ...	5	22 0 0	5	6 0 0	16 0 0
					I. W. ...	143	209 0 0	121	78 0 0	177 0 0
					I. D. W. ...	1	5 0 0	1	1 0 0	4 0 0
					Total...	410	1,646 0 0	285	346 0 0	831 0 0
					Total of Group...	536	2,152 0 0	408	480 0 0	1,194 0 0
RAMASAMUDRAM TANK.	Ramasamudram Tank.	1	Ramasamudram Tank.	...	G. W. ...	179	940 0 0	150	191 0 0	601 0 0
					G. D. W. ...	42	167 0 0	42	42 0 0	125 0 0
					I. W. ...	280	532 0 0	278	174 0 0	348 0 0
					Total...	501	1,639 0 0	470	407 0 4	1,074 0 0
		2	Eddula Cheruvu ...	...	G. W. ...	137	728 0 0	21	31 0 0	85 0 0
					G. D. W. ...	6	24 0 0	6	5 0 0	19 0 0
					I. W. ...	31	71 0 0	19	4 0 0	10 0 0
					Total...	174	823 0 0	46	40 0 0	114 0 0
		3	Peddamallalama Cheruvu ...	...	G. W. ...	74	372 0 0	32	48 0 0	120 0 0
					G. D. W. ...	2	8 0 0	2	2 0 0	6 0 0
					I. W. ...	26	53 0 0	26	18 0 0	35 0 0
					Total...	102	433 0 0	60	68 0 0	161 0 0
					Total of Group...	777	2,895 0 0	575	515 0 0	1,349 0 0
BANDIATMAKUR TANK.	Bandiatmakur Tank.	1	Bandiatmakur Chinna Cheruvu ...	...	G. W. ...	86	488 0 0	86	143 0 0	345 0 0
					G. D. W. ...	22	91 0 0	22	25 0 0	66 0 0
					I. W. ...	62	136 0 0	62	45 0 0	91 0 0
					I. D. W. ...	1	2 0 0	1	...	2 0 0
					Total...	171	717 0 0	171	213 0 0	504 0 0
		2	Singavaram Amdala Cheruvu ...	...	G. W. ...	29	133 0 0	29	18 0 0	115 0 0
					G. D. W. ...	7	25 0 0	7	5 0 0	20 0 0
					I. W. ...	63	111 0 0	63	35 0 0	76 0 0
					Total...	99	269 0 0	99	58 0 0	211 0 0
					Total of Group...	270	986 0 0	270	271 0 0	715 0 0
AYAVARI KODUR TANK.	Ayavari Kodur Tank.	1	Ayavari Kodur Tank.	...	G. W. ...	58	314 0 0	58	83 0 0	231 0 0
					G. D. W. ...	156	793 0 0	156	325 0 0	468 0 0
					I. W. ...	68	130 0 0	68	43 0 0	87 0 0
					I. D. W. ...	68	320 0 0	68	117 0 0	204 0 0
					Total...	350	1,557 0 0	350	568 0 0	990 0 0
		2	Boyappa Kodur ...	...	G. W. ...	63	348 0 0	59	90 0 0	234 0 0
					G. D. W. ...	59	270 0 0	59	93 0 0	177 0 0
					I. W. ...	63	134 0 0	60	39 0 0	77 0 0
					I. D. W. ...	9	32 0 0	9	6 0 0	26 0 0
					Total...	194	784 0 0	187	228 0 0	514 0 0

Works in the Kauli Minor Basin.—*(Continued on the next page from column 22).*

TIVATION DURING THE 5 YEARS, 1882 TO 1886.

Second crop.		Gross Assessment.			Deductions and Remissions.				
							Occasional.		
Extent.	Water Rate.	Land.	Water, 11 + 13.	Total, 14 + 15.	Fixed.	Temporary.	Extent.	Amount.	Total.
12	13	14	15	16	17	18	19	20	21
Acres.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
...	...	95 0 0	251 0 0	346 0 0	...	214 0 0	...	...	214 0 0
...	...	9 0 0	52 0 0	61 0 0	...	...	...	...	...
...	...	30 0 0	60 0 0	90 0 0	...	..	...	...	...
...	...	...	...	...	...	..	...	...	...
...	...	134 0 0	363 0 0	497 0 0	...	214 0 0	...	...	214 0 0
...	...	261 0 0	634 0 0	895 0 0	...	573 0 0	...	...	573 0 0
...	...	6 0 0	16 0 0	22 0 0	...	...	...	...	...
...	...	78 0 0	177 0 0	255 0 0	...	68 0 0	...	...	68 0 0
...	...	1 0 0	4 0 0	5 0 0	...	...	...	...	...
...	...	346 0 0	831 0 0	1,177 0 0	...	641 0 0	..	...	641 0 0
...	...	480 0 0	1,194 0 0	1,674 0 0	...	855 0 0	...	...	855 0 0
11	42 0 0	191 0 0	643 0 0	834 0 0	...	...	57	259 0 0	259 0 0
...	...	42 0 0	125 0 0	167 0 0	...	...	...	...	...
16	59 0 0	174 0 0	407 0 0	581 0 0	...	...	...	...	...
27	101 0 0	407 0 0	1,175 0 0	1,582 0 0	...	...	57	259 0 0	259 0 0
...	...	31 0 0	85 0 0	116 0 0	...	28 0 0	1	7 0 0	34 0 0
...	...	5 0 0	19 0 0	24 0 0	...	...	...	...	...
...	...	4 0 0	10 0 0	14 0 0	...	...	...	...	...
...	...	40 0 0	114 0 0	154 0 0	...	28 0 0	1	7 0 0	34 0 0
...	...	48 0 0	120 0 0	168 0 0	...	43 0 0	...	...	43 0 0
...	...	2 0 0	6 0 0	8 0 0	...	...	...	...	...
...	...	18 0 0	35 0 0	53 0 0	...	...	...	...	...
...	...	68 0 0	161 0 0	229 0 0	...	43 0 0	...	...	43 0 0
...	...	515 0 0	1,450 0 0	1,965 0 0	...	71 0 0	58	266 0 0	336 0 0
3	10 0 0	143 0 0	355 0 0	498 0 0	...	...	...	...	...
...	...	25 0 0	66 0 0	91 0 0	...	1 0 0	...	...	1 0 0
...	1 0 0	45 0 0	92 0 0	137 0 0	...	...	...	...	...
...	...	...	2 0 0	2 0 0	...	...	...	...	...
3	11 0 0	213 0 0	515 0 0	728 0 0	...	1 0 0	...	...	1 0 0
...	...	18 0 0	115 0 0	133 0 0	...	...	1	3 0 0	3 0 0
...	...	5 0 0	20 0 0	25 0 0	...	1 0 0	...	...	1 0 0
...	...	35 0 0	76 0 0	111 0 0	...	...	1	3 0 0	3 0 0
...	...	58 0 0	211 0 0	269 0 0	...	1 0 0	2	6 0 0	7 0 0
3	11 0 0	271 0 0	726 0 0	997 0 0	...	2 0 0	2	6 0 0	8 0 0
2	10 0 0	83 0 0	241 0 0	324 0 0	...	...	...	..	...
...	...	325 0 0	468 0 0	793 0 0	...	11 0 0	...	...	11 0 0
1	4 0 0	43 0 0	91 0 0	134 0 0	...	...	...	...	...
1	2 0 0	117 0 0	206 0 0	323 0 0	...	11 0 0	...	...	11 0 0
4	16 0 0	568 0 0	1,006 0 0	1,574 0 0	...	22 0 0	...	...	22 0 0
...	...	90 0 0	234 0 0	324 0 0	...	...	9	37 0 0	37 0 0
...	...	93 0 0	177 0 0	270 0 0	...	...	...	...	...
...	...	39 0 0	77 0 0	116 0 0	...	...	...	...	...
...	...	6 0 0	26 0 0	32 0 0	...	...	...	...	...
...	...	228 0 0	514 0 0	742 0 0	...	...	9	37 0 0	37 0 0

Statement of Financial Details of the Irrigation

Grouping for Professional Treatment.						Average cultivation during the 5 years 1882 to 1886.					Proposed
Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.	No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Net Revenue due to Irrigation including working expenses 15—21.	Do. per Acre Irrigated 22÷9.	Increase over present extent of Irrigation, column 9.	Land unfit for wet cultivation.	Ultimate extent of Irrigation.	Expected Net Revenue from do. including working expenses. Land.
						22	23	24	25	26	27
						Rs. A. P.	Rs. A. P.	Acres.	Acres.	Acres.	Rs. A. P.
BOYAREVULA TANK.	Bayarevula Tank.	1	Boyarevula Tank ...	...	G. W. ...	37 0 0	1 0 0	2	...	65	95 0 0
					G. D. W. ...	52 0 0	3 0 0	20	...	37	9 0 0
					I. W. ...	60 0 0	1 0 0	1	...	44	30 0 0
					I. D. W. ...	...	...	10	...	10	...
					Total...	149 0 0	1 0 0	33	...	156	134 0 0
		2	Mudukur Tank ...	...	G. W. ...	61 0 0	1 0 0	103	...	261	261 0 0
					G. D. W. ...	16 0 0	3 0 0	...	...	5	6 0 0
					I. W. ...	109 0 0	1 0 0	22	...	143	78 0 0
					I. D. W. ...	4 0 0	4 0 0	...	...	1	1 0 0
					Total...	190 0 0	1 0 0	125	...	410	346 0 0
					Total of Group...	339 0 0	1 0 0	158	...	566	480 0 0
RAMASAMUDRAM TANK.	Ramasamudram Tank.	1	Ramasamudram Tank.	...	G. W. ...	384 0 0	3 0 0	29	...	179	191 0 0
					G. D. W. ...	125 0 0	3 0 0	...	...	42	42 0 0
					I. W. ...	407 0 0	2 0 0	2	...	280	174 0 0
					Total...	916 0 0	2 0 0	31	...	501	407 0 0
		2	Eddula Cheruvu ...	...	G. W. ...	51 0 0	2 0 0	116	...	137	31 0 0
					G. D. W ...	19 0 0	3 0 0	...	...	6	5 0 0
					I. W. ...	10 0 0	1 0 0	12	...	31	4 0 0
					Total...	80 0 0	2 0 0	128	...	174	40 0 0
		3	Peddamallalama Cheruvu.	...	G. W. ...	77 0 0	2 0 0	42	...	74	48 0 0
					G. D. W. ...	6 0 0	3 0 0	...	...	2	2 0 0
					I. W. ...	35 0 0	1 0 0	...	...	26	18 0 0
					Total...	118 0 0	2 0 0	35	...	102	68 0 0
					Total of Group...	1,114 0 0	2 0 0	194	...	777	515 0 0
BANDIATMAKUR TANK.	Bandiatmakur Tank.	1	Bandiatmakur Chinna Cheruvu.	...	G. W. ...	355 0 0	4 0 0	...	...	86	143 0 0
					G. D. W. ...	65 0 0	3 0 0	100	...	122	25 0 0
					I. W. ...	92 0 0	1 0 0	...	...	62	45 0 0
					I. D. W. ...	2 0 0	2 0 0	...	...	1	...
					Total...	514 0 0	3 0 0	100	...	271	213 0 0
		2	Singavaram Amadal Cheruvu.	...	G. W. ...	112 0 0	4 0 0	...	...	29	18 0 0
					G. D. W. ...	19 0 0	3 0 0	70	...	77	5 0 0
					I. W. ...	73 0 0	1 0 0	...	...	63	35 0 0
					Total...	204 0 0	2 0 0	70	...	169	58 0 0
					Total of Group...	718 0 0	5 0 0	170	...	440	271 0 0
AYAVARI KODUR TANK.	Ayavari Kodur Tank.	1	Ayavari Kodur Tank ...		G. W. ...	241 0 0	4 0 0	...	...	58	83 0 0
					G. D. W. ...	457 0 0	3 0 0	100	...	256	325 0 0
					I. W. ...	91 0 0	1 0 0	...	...	68	43 0 0
					I. D. W. ...	195 0 0	3 0 0	35	...	103	117 0 0
					Total...	984 0 0	3 0 0	135	...	485	568 0 0
		2	Boyappa Kodur ...	...	G. W. ...	197 0 0	3 0 0	4	...	63	90 0 0
					G. D. W. ...	177 0 0	3 0 0	80	...	139	93 0 0
					I. W. ...	77 0 0	1 0 0	3	...	63	39 0 0
					I. D. W. ...	26 0 0	3 0 0	...	...	9	6 0 0
					Total...	477 0 0	3 0 0	87	...	274	228 0 0

Works in the Kauli Minor Basin.

Cultivation.			Estimated Outlay to secure Standard of Efficiency.					Remarks.
Expected net Revenue from do. including working expenses		Expected increase of Revenue 29 — (14+22).	Original works.	Repairs.	Total.	Outlay percentage on ultimate net Revenue 33 × 100 ÷ 29.	Expected increase of Revenue percentage of outlay 30 × 100 ÷ 33.	
Water.	Total.							
28	29	30	31	32	33	34	35	36
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Percent	Percent	
259 0 0	354 0 0	222 0 0	...	...	...	...	...	
112 0 0	121 0 0	60 0 0	...	...	...	...	...	
61 0 0	91 0 0	1 0 0	...	...	...	...	...	
10 0 0	10 0 0	10 0 0	...	...	...	...	...	
442 0 0	576 0 0	293 0 0	766 0 0	1,611 0 0	2,377 0 0	413	12	31 March 1889
1,046 0 0	1,307 0 0	985 0 0	...	...	...	...	...	
16 0 0	22 0 0	...	...	...	...	...	...	
199 0 0	277 0 0	90 0 0	...	...	...	...	...	
4 0 0	5 0 0	...	...	...	...	...	...	
1,265 0 0	1,611 0 0	1,075 0 0	...	7,612 0 0	7,612 0 0	473	14	31 Dec 1890
1,707 0 0	2,187 0 0	1,368 0 0	766 0 0	9,223 0 0	9,989 0 0	457	14	
759 0 0	950 0 0	375 0 0	...	...	...	...	...	
125 0 0	167 0 0	...	...	...	...	...	...	
411 0 0	585 0 0	4 0 0	...	...	...	...	...	
1,295 0 0	1,702 0 0	379 0 0	...	4,220 0 0	4,220 0 0	248	9	30 Sep 1890
549 0 0	580 0 0	498 0 0	...	...	...	...	...	
19 0 0	24 0 0	...	...	...	...	...	...	
22 0 0	26 0 0	12 0 0	...	...	...	...	...	
590 0 0	630 0 0	510 0 0	...	2,218 0 0	2,218 0 0	352	22	30 Sep 1888
288 0 0	336 0 0	211 0 0	...	...	...	...	...	
6 0 0	8 0 0	...	...	...	...	...	...	
35 0 0	53 0 0	...	...	...	...	...	...	
329 0 0	397 0 0	211 0 0	820 0 0	364 0 0	1,184 0 0	298	18	30 Sep 1890
2,214 0 0	2,729 0 0	1,100 0 0	820 0 0	6,802 0 0	7,622 0 0	279	14	
355 0 0	498 0 0	...	...	...	...	...	...	
366 0 0	391 0 0	301 0 0	...	...	...	...	...	
92 0 0	137 0 0	...	...	...	...	...	...	
2 0 0	2 0 0	...	...	...	...	...	...	
815 0 0	1,028 0 0	301 0 0	1,036 0 0	1,858 0 0	2,894 0 0	281	10	March 31st 1890
115 0 0	133 0 0	3 0 0	...	...	...	...	...	
230 0 0	235 0 0	211 0 0	...	...	...	...	...	
76 0 0	111 0 0	3 0 0	...	...	...	...	...	
421 0 0	479 0 0	217 0 0	...	3,192 0 0	3,192 0 0	666	7	31-3-90
1,236 0 0	2,207 0 0	1,218 0 0	1,036 0 0	5,050 0 0	6,086 0 0	276	20	
241 0 0	241 0 0	...	...	...	...	...	...	
768 0 0	768 0 0	311 0 0	...	...	...	...	...	
91 0 0	91 0 0	...	...	...	...	...	...	
311 0 0	311 0 0	116 0 0	...	...	...	...	...	
1,411 0 0	1,979 0 0	427 0 0	964 0 0	3,209 0 0	4,173 0 0	210	10	31-3-87
250 0 0	340 0 0	53 0 0	...	...	...	...	...	
417 0 0	510 0 0	240 0 0	...	...	...	...	...	
80 0 0	119 0 0	3 0 0	...	...	...	...	...	
26 0 0	32 0 0	...	...	...	...	...	...	
773 0 0	1,001 0 0	296 0 0	262 0 0	4,730 0 0	4,992 0 0	499	6	30 Sep 1890

Statement of Financial Details of the Irrigation

Grouping for Professional Treatment.				No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Total Irrigable Ayacut.	Full Assessment on do. Land and Water.	Average Cul-		
								First crop.		
									Assessment.	
Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.					Extent.	Land.	Water.
1	2	3	4	5	6	7	8	9	10	11
						Acres.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
AYAVARI KODUR TANK.	Ayavari Kodur Tank.	3	Kadamala Kalva Tank	...	G. W.	76	449 0 0	75	142 0 0	300 0 0
					G. D. W. ...	9	38 0 0	9	9 0 0	29 0 0
					I. W.	77	162 0 0	77	54 0 0	108 0 0
					I. D. W.	3	13 0 0	3	2 0 0	11 0 0
					Total...	165	662 0 0	164	207 0 0	448 0 0
		4	Kristnanandi Spring Channel.	...	G. W.	74	447 0 0	63	134 0 0	251 0 0
					G. D. W.	17	88 0 0	17	17 0 0	71 0 0
					I. W.	22	43 0 0	21	14 0 0	27 0 0
					I. D. W.	24	111 0 0	24	14 0 0	97 0 0
					Total...	137	689 0 0	125	179 0 0	446 0 0
					Total of Sub-Group.	846	3,692 0 0	826	1,182 0 0	2,398 0 0
NANDIYAL TANK.	Nandiyal Tank.	1	Nandiyal Tank ...	...	G. W.	631	4,108 0 0	618	1,521 0 0	2,672 0 0
					G. D. W.	64	325 0 0	64	72 0 0	254 0 0
					I. W.	364	2,311 0 0	364	856 0 0	1,456 0 0
					I. D. W.	11	55 0 0	11	11 0 0	44 0 0
					....	21	134 0 0	21	51 0 0	83 0 0
					Total...	1091	6,933 0 0	1078	2,511 0 0	4,509 0 0
		2	Tambalapalli Tank ...	...	G. W.	7	39 0 0	7	12 0 0	27 0 0
					G. D. W.	62	281 0 0	62	97 0 0	184 0 0
					I. W.	40	46 0 0	40	15 0 0	30 0 0
					I. D. W.	24	76 0 0	24	3 0 0	73 0 0
					Total...	133	442 0 0	133	127 0 0	314 0 0
		3	Doravi Nala ...	...	G. W.	26	169 0 0	26	67 0 0	102 0 0
					G. D. W.	23	138 0 0	23	34 0 0	104 0 0
					I. W.	23	30 0 0	23	10 0 0	20 0 0
					I. D. W.	13	59 0 0	13	1 0 0	58 0 0
					Total...	85	396 0 0	85	112 0 0	284 0 0
		4	Mahanandi Spring Channel.	...	G. W.	145	871 0 0	140	294 0 0	555 0 0
					G. D. W.	25	140 0 0	25	28 0 0	112 0 0
					I. W.	44	156 0 0	42	34 0 0	69 0 0
					I. D. W.	5	23 0 0	5	2 0 0	22 0 0
					Total...	219	1,190 0 0	212	358 0 0	758 0 0
		III	Ayavaripalli Channel ...	...	G. W.	22	145 0 0	22	57 0 0	88 0 0
					G. D. W.	4	18 0 0	4	3 0 0	15 0 0
					Total...	26	163 0 0	26	60 0 0	103 0 0
					Total of Group...	1554	9,124 0 0	1534	3,168 0 0	5,968 0 0
					Grand Total...	5506	24,148 0 0	4817	6,826 0 0	14,939 0 0

Works in the Kauli Minor Basin.—*(Continued on the next page from column 22).*

TIVATION DURING THE 5 YEARS 1882 TO 1886.

Second crop.		Gross Assessment.			Deductions and Remissions.				
							Occasional.		
Extent.	Water Rate.	Land.	Water, 11 + 13.	Total, 14 + 15.	Fixed.	Temporary.	Extent.	Amount.	Total.
12	13	14	15	16	17	18	19	20	21
Acres.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Acres.	Rs. A. P.	Rs. A. P.
15	64 0 0	142 0 0	364 0 0	506 0 0	...	36 0 0	...	...	36 0 0
...	...	9 0 0	29 0 0	38 0 0	...	...	...	...	...
9	40 0 0	54 0 0	148 0 0	202 0 0	...	...	...	...	...
...	...	2 0 0	11 0 0	13 0 0	...	...	...	...	...
24	104 0 0	207 0 0	552 0 0	759 0 0	...	36 0 0	...	...	36 0 0
6	25 0 0	134 0 0	276 0 0	410 0 0	...	...	...	...	...
...	...	17 0 0	71 0 0	88 0 0	...	...	...	...	...
3	11 0 0	14 0 0	38 0 0	52 0 0	...	...	...	...	...
...	...	14 0 0	97 0 0	111 0 0	...	...	...	...	...
9	36 0 0	179 0 0	482 0 0	661 0 0	...	...	...	...	...
37	156 0 0	1,182 0 0	2,554 0 0	3,736 0 0	...	58 0 0	9	37 0 0	95 0 0
585	2,336 0 0	1,521 0 0	5,008 0 0	6,529 0 0	...	...	...	...	...
34	69 0 0	72 0 0	323 0 0	395 0 0	..	...	...	...	...
350	1,401 0 0	856 0 0	2,857 0 0	3,713 0 0	...	...	...	...	...
7	14 0 0	11 0 0	58 0 0	69 0 0	...	...	...	...	...
21	83 0 0	51 0 0	166 0 0	217 0 0	...	...	...	...	...
997	3,903 0 0	2,511 0 0	8,412 0 0	10,923 0 0	...	...	...	...	...
...	...	12 0 0	27 0 0	39 0 0	...	...	...	...	...
...	...	97 0 0	184 0 0	281 0 0	...	...	...	...	...
...	...	15 0 0	30 0 0	45 0 0	...	...	...	...	...
...	1 0 0	3 0 0	74 0 0	77 0 0	...	...	...	...	...
...	1 0 0	127 0 0	315 0 0	442 0 0	...	...	...	...	...
13	53 0 0	67 0 0	155 0 0	222 0 0	...	...	...	...	...
...	...	34 0 0	104 0 0	138 0 0	...	...	...	...	...
3	12 0 0	10 0 0	32 0 0	42 0 0	...	...	...	...	...
...	...	1 0 0	58 0 0	59 0 0	...	...	...	...	...
16	65 0 0	112 0 0	349 0 0	461 0 0	...	...	...	...	...
112	449 0 0	294 0 0	1,004 0 0	1,298 0 0	...	...	...	...	...
9	19 0 0	28 0 0	131 0 0	159 0 0	...	...	...	...	...
15	46 0 0	34 0 0	115 0 0	149 0 0	...	...	...	...	...
4	8 0 0	2 0 0	30 0 0	32 0 0	...	...	...	...	...
140	522 0 0	358 0 0	1,280 0 0	1,638 0 0	...	...	...	...	...
11	45 0 0	57 0 0	133 0 0	190 0 0	...	...	...	...	...
...	...	3 0 0	15 0 0	18 0 0	...	...	...	...	...
11	45 0 0	60 0 0	148 0 0	208 0 0	...	...	..	...	...
1,164	4,536 0 0	3,168 0 0	10,504 0 0	13,672 0 0	...	...	...	...	...
1,204	4,703 0 0	6,826 0 0	19,743 0 0	26,569 0 0	...	1,206 0 0	117	864 0 0	1,876 0 0

Statement of Financial Details of the Irrigation

Grouping for Professional Treatment. — Group.	Sub-Group.	No. in Group or Isolated Work.	Name and Description of Irrigation work.	No. in District Irrigation Register.	Items of Irrigation whether Government, Zemindari, or Inam.	Average cultivation during the 5 years 1882 to 1886. — Net Revenue due to Irrigation including working expenses, 15 — 21.	Do. per Acre Irrigated 22 ÷ 9.	Proposed — Increase over present extent of Irrigation, column 9.	Land unfit for cultivation.	Ultimate extent of Irrigation.	Expected net Revenue from do including working expenses. — Land.
						22	23	24	25	26	27
						Rs. A. P.	Rs. A. P.	Acres.	Acres.	Acres.	Rs. A. P.
AYAVARI KODUR TANK.	Ayavari Kodur Tank.	3	Kadamala Kalva Tank. ...		G. W.	328 0 0	4 0 0	1	...	76	142 0 0
					G. D. W.	29 0 0	3 0 0	75	...	84	9 0 0
					I. W.	148 0 0	2 0 0	...	...	77	54 0 0
					I. D. W.	11 0 0	4 0 0	10	...	13	2 0 0
					Total...	516 0 0	3 0 0	86	...	250	207 0 0
		4	Kristnanandi Spring Channel. ...		G. W.	276 0 0	4 0 0	11	...	74	134 0 0
					G. D. W.	71 0 0	4 0 0	...	...	17	17 0 0
					I. W.	38 0 0	2	1	...	22	14 0 0
					I. D. W.	97 0 0	4 0 0	...	...	24	14 0 0
					Total...	482 0 0	3 0 0	12	...	137	179 0 0
					Total of Sub-Group.	2,459 0 0	3 0 0	320	...	1,146	1,182 0 0
NANDIYAL TANK.	Nandiyal Tank.	1	Nandiyal Tank		G. W.	5,008 0 0	8 0 0	13	...	631	1,521 0 0
					G. D. W.	323 0 0	5	...	...	64	72 0 0
					I. W.	2,857 0 0	8 0 0	...	...	364	856 0 0
					I. D. W.	58 0 0	5	...	...	11	11 0 0
					....	166 0 0	...	...	...	21	51 0 0
					Total...	8,412 0 0	8 0 0	13	...	1,091	2,511 0 0
		2	Tambalapalli Tank		G. W.	27 0 0	4 0 0	...	...	7	12 0 0
					G. D. W.	184 0 0	3 0 0	...	...	62	97 0 0
					I. W.	30 0 0	1 0 0	...	...	40	15 0 0
					I. D. W.	74 0 0	3 0 0	...	...	24	3 0 0
					Total...	315 0 0	3 0 0	...	...	133	127 0 0
		3	Doravi Nala		G. W.	155 0 0	6	...	...	26	67 0 0
					G. D. W.	104 0 0	5	...	...	23	34 0 0
					I. W.	32 0 0	1	...	...	23	60 0 0
					I. D. W.	58 0 0	4	...	...	13	1 0 0
					Total...	349 0 0	4	...	...	85	112 0 0
		4	Mahanandi Spring Channel.		G. W.	1,004 0 0	7	5	...	145	294 0 0
					G. D. W.	131 0 0	9	64	...	89	28 0 0
					I. W.	115 0 0	3	2	...	44	34 0 0
					I. D. W.	30 0 0	6	20	...	25	2 0 0
					Total...	1,280 0 0	6	91	...	303	358 0 0
		III	Ayavaripalli Channel... ...		G. W.	133 0 0	6	...	...	22	57 0 0
					G. D. W.	15 0 0	4	...	...	4	3 0 0
					Total...	148 0 0	5	...	...	26	60 0 0
					Total of Group...	10,504 0 0	7	104	...	1,638	3,168 0 0
					Grand Total...	17,675 0 0	3·66	1,726	...	6,550	6,826 0 0

Works in the Kauli Minor Basin.

Cultivation.			Estimated Outlay to secure Standard of Efficiency.					
Expected net Revenue from do. including working expenses		Expected increase of Revenue 29 — (14+22).	Original works.	Repairs.	Total.	Outlay percentage on ultimate net Revenue 33 × 100 ÷ 29.	Expected increase of Revenue, percentage of outlay, 30 × 100 ÷ 33.	Remarks.
Water.	Total.							
28	29	30	31	32	33	34	35	36
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Percent	Percent	
368 0 0	510 0 0	40 0 0	...	...	...	...	...	
254 0 0	263 0 0	225 0 0	...	...	...	...	...	
148 0 0	202 0 0	...	...	...	...	...	...	
51 0 0	53 0 0	40 0 0	...	...	...	...	...	
821 0 0	1,028 0 0	305 0 0	285 0 0	2,260 0 0	2,545 0 0	247	12	31-12-1889
320 0 0	454 0 0	44 0 0	...	...	...	...	...	
71 0 0	88 0 0	...	...	...	...	...	...	
40 0 0	54 0 0	2 0 0	...	...	...	...	...	
97 0 0	111 0 0	...	...	...	...	...	...	
528 0 0	707 0 0	46 0 0	549 0 0	762 0 0	1,311 0 0	184	3·5	
3,533 0 0	4,715 0 0	1,074 0 0	2,060 0 0	10,961 0 0	13,021 0 0	276	8	30 June 1889
5,048 0 0	6,569 0 0	40 0 0	...	...	...	...	...	
323 0 0	395 0 0	...	...	...	...	...	...	
2,857 0 0	3,713 0 0	...	...	...	...	...	...	
58 0 0	69 0 0	...	...	...	...	...	...	
166 0 0	217 0 0	...	...	...	...	...	...	
2,452 0 0	10,963 0 0	40 0 0	...	5,725 0 0	5,725 0 0	52	·69	30 Sep 1890
27 0 0	39 0 0	...	...	...	...	...	...	
184 0 0	281 0 0	...	...	...	...	...	...	
30 0 0	45 0 0	...	...	...	...	...	...	
74 0 0	77 0 0	...	...	...	...	...	...	
315 0 0	442 0 0	...	...	1,015 0 0	1,015 0 0	230	...	31-3-1890
155 0 0	222 0 0	...	...	...	...	...	...	
104 0 0	138 0 0	...	...	...	...	...	...	
32 0 0	42 0 0	...	...	...	...	...	...	
58 0 0	59 0 0	...	...	...	...	...	...	
349 0 0	461 0 0	...	...	...	...	...	...	
1,044 0 0	1,338 0 0	40 0 0	...	...	...	...	...	
411 0 0	439 0 0	280 0 0	...	...	...	...	...	
121 0 0	155 0 0	6 0 0	...	...	...	...	...	
50 0 0	52 0 0	20 0 0	...	...	...	...	...	
1,626 0 0	1,984 0 0	346 0 0	...	...	...	...	...	
133 0 0	190 0 0	...	...	...	...	...	...	
15 0 0	18 0 0	...	...	...	...	...	...	
148 0 0	208 0 0	...	...	...	...	...	...	
10,890 0 0	14,058 0 0	386 0 0	...	6,740 0 0	6,740 0 0	48	6	
25,296 0 0	32,822 0 0	8,321 0 0	9,166 0 0	53,638 0 0	62,704 0 0	191	13	

PEDDA DEVALAPURAM YERRA CHERUVU GROUP.

Pedda Devalapuram Yerra Cheruvu Sub-Group.

No. 1, IRRIGATION WORK.

PEDDA DEVALAPURAM YERRA CHERUVU.

This is the terminal tank of the group of the same name. It is situated near the village of Pedda Devalapuram, in Nandyal Taluk. Having been recently repaired by the Regular Division, it is in good order. In addition to the drainage from its free catchment area, it receives the surplus of Tummala Cheruvu lying above it. It has three surplus escapes and one sluice, which are in good order and answer their purpose.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	22·76 feet.
Maximum water level do.	24·51 „
Level of top of bund do.	27·51 „

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C.\ M^{\frac{2}{3}} - c.\ m^{\frac{2}{3}}$	C. = 550 ; c. = 100 ;
Area of free basin	3·75 sq. miles.
Number of tanks above	1
Combined catchment area	8·31 sq. miles.
Maximum flood discharge from combined catchment area	1973 cub. ft. pr. sec.
Do. do. from supply channel ...	„ „
Total do. to be provided for ...	1973 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir Nos. 1 and 2 effective at ...	22·76	208	1605·34
Existing bye-wash do. do.	22·76	68	367·33
Total maximum discharges provided for	...	...	1973

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	15·00 mills. sq. ft.
Greatest width of do. do. from bund ...	2340 ft.
Class of bund	3rd class.
Capacity of tank at F. S. L.	28·44 mills. cub. ft.
Total annual storage	28·44 „

DETAILS OF IRRIGATION.

Ayacut area	154·37 acres.
Average cultivation during the past five years ...	150·56 ,,
Proposed ultimate area of irrigation	154·37 ,,
Water stored per acre of do.	·18 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	41·2 acres.
Level of sill of sluice No. 1 (existing) ...	17·03 ft.

The Financial details of this work are given in the statement at page 2.

PEDDA DEVALAPURAM YERRA CHERUVU GROUP.

Pedda Devalapuram Yerra Cheruvu Sub-Group.

No. 2, IRRIGATION WORK.

TUMMALA CHERUVU TANK.

This is a second class tank situated about ¾ of a mile to the west of Narayanapuram village in Nandyal Taluk. It receives a supply from the Madduleru River by an open channel (which is to be cleared of silt) and surpluses into the Yerra Cheruvu. It has a weir 42 feet long, which being insufficient, it is proposed to construct a roughstone paved bye-wash 350½ feet long at the north-east end of the bund. The tank has two sluices in good working order, requiring but slight repairs; the bund is low and irregular in section, and will be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	37·75 feet.
Maximum water level do.	39·25 ,,
Level of top of bund do.	43·75 ,,

BENCH MARKS.

I.—B. M. on crest of existing weir ...	37·75 ,,
II.—B. M. on face wall of sluice No. 1 ...	43·00 ,,
III.—B. M. on do. do. do. No. 2 ...	37·26 ,,

Height of datum above Mean Sea Level ...	750·00 ,,

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C.\ M.^{\frac{2}{3}}$	C. = 550
Area of Free basin	4·56 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	4·56 sq. miles.
Maximum flood discharge from combined catchment area	1512 cub. ft. pr. sec.
Do. do. from supply channel ...	271·19 „
Total do. to be provided for ...	1784 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at	37·75	42	274
Proposed bye-wash do. ... ... (*Vide* sketch, Plate III, Fig. 3).	37·75	350·5	1510
Total maximum discharge provided for	...	...	1784

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	4·90 mills. sqr. ft.
Greatest width of do. do. from bund ...	1020 ft.
Class of bund	2nd class.
Capacity of tank at F. S. L.	14·70 mills. sqr. ft.
Total annual storage	44·0 „

DETAILS OF IRRIGATION.

Ayacut area	353·11 acres.
Average cultivation during the past five years ...	151·29 „
Proposed ultimate area of irrigation	353·11 „
Water stored per acre of do.	·125 mills. cub. ft.
Ultimate irrigation per square mile of free catchment	77·43 acres.
Level of sill of sluice No. 1 (existing) above datum	31·82 „
Do. do. 2, do.	32·30 „

A longitudinal section of the bund showing details is given on Plate III.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group,

No. 1, IRRIGATION WORK.

LINGAPURAM KOTHA CHERUVU.

THIS tank is situated about ¾ mile north-east of Lingapuram village in Nandyal Taluq; it receives its supply from a combined catchment area of 2·70 square miles and discharges into the Kauli River. The tank has a weir 60 feet long, which is not sufficient to dispose of its entire surplus; it is therefore proposed to construct a roughstone escape 309 feet long at the right flank. There are two sluices at present, of which sluice No. 1 is in good order, requiring only slight repairs; sluice No. 2 is out of order and requires reconstruction. A third sluice has to be provided to irrigate high level fields. The bund is to be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum... ...	... 37·35	feet.
Maximum water level do.	... 38·35	„
Level of top of bund do.	... 42·85	„

BENCH MARKS.

I.—B. M. on east wing wall of existing weir	... 39·24	„
II.—B. M. on west wing do. do.	... 39·94	„
III.—B. M. on face wall of sluice No. 1 ...	... 36·76	„

Height of datum above Mean Sea Level	... 720·00	„

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C M^{\frac{2}{3}} - c m^{\frac{2}{3}}$	C = 550; c = 100;
Area of free basin	·90 sq. miles.
Number of tanks above	2
Combined catchment area	2·70 sq. miles.
Maximum flood discharge from combined catchment area	920 cub. ft. pr. sec.
Do. do. from supply channel ...	„ „
Total do. to be provided for ...	920 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at	37·35	60	200
Proposed roughstone bye-wash effective at ... (*Vide* sketch, Plate III, Fig. 5).	„	309	720
Total maximum discharge provided for	...	...	920

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	4·57 mills. sqr. ft.
Greatest width of do. do. from bund ...	1300 ft.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	18·28 mills. cub. ft.
Total annual storage	36·56 „

DETAILS OF IRRIGATION.

Ayacut area	329·91 acres.
Average cultivation during the past five years ...	193·77 „
Proposed ultimate area of irrigation	329·91 „
Water stored per acre of do.	·11 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	366 acres.
Level of sill of sluice No. 1, above datum ...	31·39
Do. do. 2, (to be reconstructed).	30·75 „
Do. do. 3, proposed ...	33·60 „
(*Vide* sketch, Plate III, Fig. 4 & 5.)	

A longitudinal section of the bund showing details is given on Plate III.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. 2, IRRIGATION WORK.

CHANDANAPPA CHERUVU.

THIS tank is situated about 2½ miles north-east of the Village of Santazutur in Nandyal Taluq; besides the drainage from its free catchment basin it receives the surplus of Brahmala Cheruvu (with the exception of the small quantity of 28 cubic feet per second, which is discharged into the Narayanapuram Kotha Cheruvu through an escape at left flank) and discharges into the Irrigation canal. The tank has a natural escape at right flank 677 feet long, over which its entire surplus passes off. There are two Irrigation sluices in good order, requiring only slight repairs. The bund is low and irregular in section: it will be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	32·30 feet.
Maximum water level do.	... ...	33·30 „
Level of top of bund do.	... ...	37·80 „

BENCH MARKS.

I.—B. M. on face wall of sluice No. 2 ...	...	35·39 „
II.—B. M. on wing wall of existing bye-wash	...	34·69 „

Height of datum above Mean Sea Level	...	730 „

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C M^{\frac{2}{3}} - c m^{\frac{2}{3}}$	... ...	C = 550 ; c = 100 ;
Area of free basin	... ...	1·69 sq. miles.
Number of tanks above	... ...	1
Combined catchment area ...	... ...	3·13 „ „
Maximum flood discharge from combined catchment area	... ...	1049 cub. ft. pr. sec.
Do. do. from supply channel...		*Nil.*
Total do. to be provided for	...	1049 „ „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing bye-wash effective at	32·30	677	1354
Total maximum discharge provided for	...	...	1354

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	6·97 mills. sq. ft.
Greatest width of do. do. from bund ...	700 ft.
Class of bund	2nd class.
Capacity of tank at F. S. L.	27·88 mills. cub. ft.
Total annual storage	41·82 do.

DETAILS OF IRRIGATION.

Ayacut area	275·56 acres.
Average cultivation during the past 5 years ...	159·48 „
Proposed ultimate area of irrigation	275·56 „
Water stored per acre of do.	·15 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	163 acres.
Level of sill of sluice No. 1, (existing) above datum.	25·93
Do. do. No. 2, ...	26·41

A longitudinal section of the bund showing details is given on Plate III.

The Financial details of the work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. 3, IRRIGATION WORK.

POTHA CHERUVU.

This tank is situated about a mile to the south of the village of Narayanapuram in Nandyal Taluq; it has a combined catchment area of 1·80 square miles, and also receives a supply from Madduleru by a channel which is to be cleared of silt; the existing weir 30, feet long, is ruined; it is proposed to dismantle it and construct a new weir in its place, 150 feet long, to discharge the entire surplus. The tank has three sluices, all in good working order, but requiring slight repairs. The bund is low and irregular in section; it is proposed to raise it to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 2 to 1

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	38·00 ft.
Maximum water level do.	... ...	39·50 ,,
Level of top of bund do.	... ...	44·00 ,,

BENCH MARKS.

I.—B. M. on front retaining wall of sluice No. 2 ... 38·10 ,,

II.—B. M. on east wing wall of existing weir ... 39·89 ,,

Height of datum above Mean Sea Level ... 740·00 ,,

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C M^{\frac{2}{3}} - c m^{\frac{2}{3}}$ ... ... C.=550 ; c.=100 ;

Area of free basin	... ...	1·08 sq. miles.
Number of tanks above	... ...	1
Combined catchment area	... ...	1·80 sq. miles.
Maximum flood discharge from combined catchment area	... ...	733·52 cub. ft. pr. sec.
Do. do. from supply channel	...	177·63 ,,
Total do. to be provided for	...	911 ,,

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Proposed surplus weir effective at (*Vide* sketch, Plate IV, Fig. 1)	38·00	150	918
Total Maximum discharges provided for	...	...	918

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	3·59 mills. sqr. ft.
Greatest width of do. do. from bund ...	1500 ft.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	14·37 mills. cub. ft.
Approximate annual storage	57·48 „

DETAILS OF IRRIGATION.

Ayacut area	240 acres.
Average cultivation during the past five years ...	203 „
Proposed ultimate area of irrigation	340 „
Water stored per acre of do.	·17 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	315 acres.
Level of sill of sluice No. 1, above datum ...	30·18 „
Do. do. 2, do.	31·26 „
Do. do. 3, do.	32·48 „

A longitudinal section of the bund showing details is given on Plate IV.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. 4, IRRIGATION WORKS.

NARAYANAPURAM KOTHA CHERUVU.

This tank is situated to the south of Narayanapuram village in Nandiyal Taluq; irrespective of the supply from its free catchment area of ·72 square mile, it receives a portion (28 cubic feet per second) of the surplus of Brâhmala Cheruvu from its south-east end. There is a bye-wash 238 feet long at right flank in good order and sufficient to dispose of the whole surplus. The tank has an irrigation sluice in good order, but as it is not capable of irrigating high level fields, it is proposed to construct a high level sluice at the site shown on the longitudinal section. The bund is to be raised to 3 feet above M. W. L. 3 feet wide at top with side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	38·00 ft.
Maximum water level do.	39·50 „
Level of top of bund do.	42·50 „

BENCH MARKS.

I.—B. M. on face wall of sluice ...	44·87 feet.

Height of datum above Mean Sea Level ...	740 00 "

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}}$.	C. = 550 ;
Area of free basin	·72 sq. miles.
No. of tanks above	*Nil.*
Combined catchment area	·72 sq. miles.
Maximum flood discharge from combined catchment area	441·81 cub. ft. per sec.
Do. do. from Brahmala Cheruvu through the escape at left flank	28·00 "
Total do. to be provided for ...	469·82 "

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing bye-wash effective at	38·00	238	469·82
Total maximum discharge provided for	...	...	469·82

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	2·89 mills. sqr. ft.
Greatest width of do. do. from bund ...	400 ft.
Class of bund	3rd class.
Approximate capacity of tank at F. S. L. ...	5·79 mills. cub. ft.
Total annual storage	14·47 "

DETAILS OF IRRIGATION.

Ayacut area	...	126·91 acres.
Average cultivation during the past five years	...	77·60 ,,
Proposed ultimate area of irrigation ...	...	126·91 ,,
Water stored per acre of do. ...	...	·11 mill. cub. ft.
Ultimate irrigation per square mile of free catchment.		176 acres
Level of sill of sluice No. 1, above datum	...	34·00 ,,
Do. do. 2, do. proposed	...	,,

A longitudinal section of the bund showing details is given on Plate IV.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. 5, IRRIGATION WORK.

BRAMHALA CHERUVU.

THIS is the uppermost tank of the group and is situated about seven miles from the foot of the Nallamalai Hills. It has a free catchment area of 1·44 square miles and also receives a supply from Madduleru by a channel, which has to be cleared of silt. The existing roughstone escape at the north-east end of the bund, 310 feet long, is to be extended by 70 feet. The existing cut in the bund at its south-east end (through which 28 cubic feet per second discharges into the Narayanapuram Kotha Cheruvu) is to be paved with roughstone for a length of 12 feet. The existing irrigation sluice is in good order, requiring only slight repairs. The bund is low and irregular in section, and will be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum ...	...	39·50 feet.
Maximum water level do. ...	...	40·50 ,,
Level of top of bund do. ...	...	45·00 ,,

BENCH MARKS.

I.—B. M. on top wing wall of existing bye-wash ... 41·16 feet.

Height of datum above Mean Sea Level ... 760·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C.\ M^{\frac{2}{3}}$	C. = 550.
Area of free basin	1·44 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	1·44 sq. miles.
Maximum flood discharge from combined catchment area	704·00 cub. ft. pr. sec.
Do. do. from supply channel ...	209·62 „
Total do. to be provided for ...	913·62 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing roughstone bye-wash, including proposed extension, effective at	39·50	380	886
Proposed roughstone escape at south-east end of the bund ... ... (*Vide* sketches, Plate IV, Figs. 2 and 3)	39·50	12	28
Total maximum discharge provided for	...	...	913

DETAILS OF STORAGE.

Area of waterspread at at F. S. L	3·23 mills. sqr. ft.
Greatest width of do. do. from bund ...	1980 ft.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	15·13 mills. cub. ft.
Total annual storage	31·36 „ 9648

7

DETAILS OF IRRIGATION.

Ayacut area	192 acres.
Average cultivation during the past five years ...	179 ,,
Proposed ultimate area of irrigation	192 ,,
Water stored per acre of do.	·16 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	133 acres.
Level of sill of sluice No. 1 (existing) above datum.	31·17

A longitudinal section of the bund showing details is given on Plate IV.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. I, IRRIGATION WORK.

NEMALLAKUNTA.

THIS is an isolated Government tank lying within the limits of the Lingapuram Kotha Cheruvu Group, about a mile to the east of the village of Gallichinnapoliem, Nandyal Taluq. In addition to the drainage from its own catchment area it receives a supply from Govindaguntavagu by an open channel cut for the purpose. There is an escape 48 feet long at right flank, which, being insufficient to dispose of the whole surplus, is to be extended to 248 feet; the wings of the existing escape require reconstruction. There are two irrigation sluices in good order requiring only sundry repairs. The bund is to be raised to 3 feet above M. W. L with a top width of 3 feet and side slopes of 1½ to 1 and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	34·00 feet.
Maximum water level do.	35·50 ,,
Level of top of bund do.	38·50 ,,

BENCH MARKS.

I.—B. M. on east wing wall of existing escape ... 34·95 feet.

II.—B. M. on face wall of low level sluice ... 34·85 „

III.—B. M. on do. high do. ... ... 38·20 „

Height of datum above Mean Sea Level ... 730·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula
$D=C.M^{\frac{2}{3}}$ ... ... C.=550.
Area of free basin ... ... 2·00 sq. miles.
No. of tanks above ... ... *Nil.*
Combined catchment area ... ... 2·00 sq. miles.
Maximum flood discharge from combined catchment
area ... ... 874·17 cub. ft. pr. sec.
Do. do. from supply channel ... 175·00 „
Total do. to be provided for ... 1059·17 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing escape, including proposed extension, effective at (*Vide* sketches, Plate III, Fig. 1). ...	34·00	248	1059·17
Total maximum discharge provided for	...	...	1059·17

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	12·20 mills. sqr. ft.
Greatest width of do. do., from bund ...	1200 ft.
Class of bund	3rd class
Approximate capacity of tank at F. S. L. ...	25·49 mills. cub. ft.
Total annual storage	25·49 „

DETAILS OF IRRIGATION.

Ayacut area	87·75 acres.
Average cultivation during the past five years ...	53·57 „
Proposed ultimate area of irrigation	87·75 „
Water stored per acre of do.	·29 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	43·5 acres.
Level of sill of sluice No. 1 (existing) high level above datum.	31·18 „
Do. do. 2, do. low level ...	27·25 „

A longitudinal section of the bund showing details is given on Plate III.

The Financial details of this work are given in the statement at page 2.

LINGAPURAM KOTHA CHERUVU GROUP.

Lingapuram Kotha Cheruvu Sub-Group.

No. II, IRRIGATION WORK.

RAMAPURAM TANK.

THIS is an isolated Government tank situated about half a mile north-east of the village of Ramapuram, Nandyal Taluq, having a free catchment area of ·44 square mile. As it has no adequate surplus work at present, it is proposed to construct a roughstone paved bye-wash 137 feet long at right flank. There is an irrigation sluice in good working order requiring only slight repairs. The bund is low and irregular in section: it is proposed to raise it to 3 feet above M. W. L. with a top width of 3 feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	28·00 feet.
Maximum water level do.	... ...	29·00 "
Level of top of bund do.	... ...	32·00 "

BENCH MARKS.

I.—B. M. on demarcation stone at right flank	...	30·53 "
II.—B. M. on face wall of sluice	... ...	27·35 "

Height of datum above Mean Sea Level	...	700·00 "

MAXIMUM DISCHARGE TO BE PROVIDED FOR,

Co-efficients for maximum discharge in formula $D=C. M^{\frac{2}{3}}$.	... ...	C.=550 ;
Area of free basin	... ...	·44 sq. miles.
Number of tanks above	... ...	*Nil.*
Combined catchment area	... ...	·44 sq. miles.
Maximum flood discharge from combined catchment area	... ...	313 cub. ft. per sec.
Do. do. from supply channel	...	*Nil.*
Total do. to be provided for ...	...	313 "

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Proposed roughstone bye-wash effective at (*Vide* sketch, Plate III, Fig. 2). ...	28·00	137	313·00
Total maximum discharge provided for	...	...	313·00

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	3·48 mills. sq. ft.
Greatest width of do. do. from bund ...	850 ft.
Class of bund	3rd class.
Capacity of tank at F. S. L.	6·33 mills. cub. ft.
Total annual storage	9·50 „
Capacity of tanks above	*Nil.*
Do. do. provided with adequate surplus works.	*Nil.*
Do. do. not provided do. do. ...	*Nil.*

DETAILS OF IRRIGATION.

Ayacut area	38·62 acres.
Average cultivation during the past five years ...	38·62 „
Proposed ultimate area of irrigation	38·62 „
Water stored per acre of do.	·24 mill. cub. ft.
Ultimate irrigation per square mile of free catchment.	88 acres.
Level of sill of sluice No. 1 (existing) above datum..	22·55

A longitudinal section of the bund showing details is given on Plate III.

The Financial details of this work are given in the statement at page 2.

BOYAREVULA TANK GROUP.

Boyarevula Tank Sub-Group.

No. I, IRRIGATION WORK.

BOYAREVULA TANK.

This is the terminal tank of the group of the same name, and lies about a mile and-a-half to the north-east of the village of Mudukur, in Nandikotkur Taluk. It has a combined catchment area of 8·65 square miles and discharges into the Kauli River. It has a surplus weir 260 feet long at right flank, which is to be repaired and improved, as shown in sketch Plate V, Figure 1. The tank has two irrigation sluices, both of which are in good working order, requiring but slight repairs. The bund is low and irregular in section: it is proposed to raise it to $4\frac{1}{2}$ feet above M. W. L. with a top width of $4\frac{1}{2}$ feet and side slopes of 2 to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	...	...	29·45 feet.
Maximum water level do.	...	...	31·20 „
Level of top of bund do.	...	...	35·70 „

BENCH MARKS.

I.—B. M. on east wing wall of existing weir ... 33·79 „

II.—B. M. on crest of existing weir ... 29·45 „

III.—B. M. on face wall of high level sluice ... 34·06 „

IV.—B. M. on do. low level ... ... 32·78 „

Height of datum above Mean Sea Level ... ... 750·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C\,M^{\frac{2}{3}} - c\,m^{\frac{2}{3}}$	C = 550 ; c = 100.
Area of free basin	1·40 sq. miles.
Number of tanks above	1
Combined catchment area	8·65 sq. miles.
Maximum flood discharge from combined catchment area	1938·55 cub.ft.pr.sec.
Do. do. from supply channel ...	*Nil.*
Total do. to be provided for ...	1938·55 ,,

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at ... ... (*Vide* sketch, Plate V, Fig. 1).	29·45	260	1938·55
Total maximum discharge provided for	...	...	1938·55

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	22·65 mills. sqr. ft.
Greatest width of do. do. from bund ...	1800 ft.
Class of bund	2nd class.
Capacity of tank at F. S. L.	43·26 mills. cub. ft.
Total annual storage	43·26 ,,

DETAILS OF IRRIGATION.

Ayacut area	156·00 acres.
Average cultivation during the past five years ...	134·87 ,,
Proposed ultimate area of irrigation	156·00 ,,
Water stored per acre of do.	·28 mill. cub. ft.
Ultimate irrigation per square mile of free catchment	111 acres.
Level of sill of high level sluice No. 1 (existing) above datum	25·89 ,,
Do. low level sluice No. 2 do. ...	24·72 ,,

(*Vide* sketches, Plate V, Figs. 2 and 3.)

A longitudinal section of the bund showing details is given in Plate V.

The Financial details of this work are given in the statement at page 6.

BOYAREVULA TANK GROUP.

Boyarevula Tank Sub-Group.

No. 2, IRRIGATION WORK.

MUDUKUR TANK.

THIS tank is situated about a mile east of the Mudukur village, in Nandikotkur Taluk. It receives the drainage of 7·25 square miles and surpluses into the Boyarevula tank. It has a surplus weir 259 feet long at right flank, which is in good order, requiring only ordinary repairs. The tank has two irrigation sluices, both of which are in good working order, requiring only slight repairs, provision for which is made in the estimate. The bund is to be raised to 4½ feet above M. W. L, 4½ feet wide at top and side slopes of 2 to 1. The tank has also a catchment bund for about 2¼ miles in continuation of its own bund, for the repair of which also the estimate provides.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum		...	... 29·25 feet.
Maximum water level	do.	...	... 31·25 ,,
Level of top of bund	do.	...	... 35·75 ,,

BENCH MARKS.

I.—B. M. on east wing wall of existing weir	... 33·20 ,,
II.—B. M. on crest of existing weir	... 25·29 ,,
III.—B. M. on face wall of high level sluice	... 36·01 ,,

IV.—B. M. on face wall of low level sluice ... 31·25 feet.

Height of datum above Mean Sea Level ... 754·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}}$.	...	...	... C. = 550.
Area of free basin	...	...	... 7·25 sq. miles.
Number of tanks above	...	...	... *Nil.*
Combined Catchment area...		...	... 7·25 sq. miles.
Maximum flood discharge from combined catchment area	...	...	... 2060·25cub.ft.pr.sec.
Do.	do.	from supply channel	... *Nil.*
Total	do.	to be provided for	... 2060·25 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at (*Vide* sketch, Plate V, Fig. 4).	29·25	259	2060·25
Total maximum discharge provided for	...	...	2060·25

DETAILS OF STORAGE.

Area of waterspread at F. S. L.		...	... 14·25 mills. sq. ft.
Greatest width of	do.	from bund	... 3000 ft.
Class of bund	...	...	... 2nd class.
Capacity of tank at F. S. L.		...	... 51·18 mills. cub. ft.
Total annual storage	...	...	... 102·36 „

DETAILS OF IRRIGATION.

Ayacut area	410 acres.
Average cultivation during the past five years ...	285 „
Proposed ultimate area of irrigation	410 „
Water stored per acre of do.	·25 mill. cub. ft.
Ultimate irrigation per square mile of free catchment	56 acres.
Level of sill of high level sluice No. 1 existing above datum	23·66
Do. low level ... 2 do. ...	18·44

(*Vide* sketches, Plate V, Figs. 5 and 6).

A longitudinal section of the bund showing details is given on Plate V.

The Financial details of this work are given in the statement at page 6.

RAMASAMUDRAM TANK GROUP.

Ramasamudram Tank Sub-Group.

No. 1, IRRIGATION WORK.

RAMASAMUDRAM TANK.

THIS is a first-class Government Tank situated about two miles south-east of the village of Velgodu, where it forms the terminal tank of the group of the same name. In addition to the drainage from its free catchment area it receives a supply from Buggavagu by a channel. There is a surplus weir at the left flank 600 feet in length, which is to be repaired and improved as shown in sketch, plate VI, figure 2. There are two tanks above this work, but their surplus does not affect it, and therefore is not taken into account. The tank has two irrigation sluices in good order. The bund is low and irregular in section, and will be raised to 6 feet above M. W. L. with a top width of 6 feet and side slopes of 1½ to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	44·83 feet.
Maximum water level do.	45·83 „
Level of top of bund do.	51·83 „

BENCH MARKS.

I.—B. M. on east wing wall of existing weir	...	49·47 feet.
II.—B. M. on crest of ~~do.~~ ...	...	44·85 „
III.—B. M. on west wing wall of do. ...	...	49·56 „

Height of datum above Mean Sea Level ... 760·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D=C. M^{\frac{2}{3}}$.	C.=550.	
Area of free basin	1·00 sq. mile.	
Number of tanks above	2	
Combined catchment area. (The catchment area of the upper tanks is not taken into account, as they do not directly surplus into this one) ...	1·00 sq. mile.	
Maximum flood discharge from combined catchment area	550	cub. ft. pr. sec.
Do. do. from supply channel ...	950	„
Total do. to be provided for ...	1500	„

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at ... ... (*Vide* sketch, Plate VI, Fig. 2).	44·83	600	1500·00
Total maximum discharge provided for	...	...	1500·00

DETAILS OF STORAGE.

Area of waterspread at F. S. L. ...	... 19·62 mills. sqr. ft.
Greatest width of do. from bund	... 2100 ft.
Class of bund	... 1st class.
Capacity of tank at F. S. L. ...	... 61·80 mills. cub. fit.
Total annual storage	... 92·70 „

DETAILS OF IRRIGATION.

Ayacut area	... 500 acres.
Average cultivation during the past five years	... 406 „
Proposed ultimate area of irrigation ...	... 500 „
Water stored per acre of do. ...	... ·18 mills. cub. ft.
Ultimate irrigation per square mile of free catchment.	500 acres.
Level of sill of high level sluice (existing) above datum	... 36·96 „
Do. low level do.	... 35·39 „

A longitudinal section of the bund showing details is shown on Plate VI.

The Financial details of this work are given in the statement at page 6.

RAMASAMUDRAM TANK GROUP.

Ramasamudram Tank Sub-Group.

No. 2, IRRIGATION WORK.

EDDULA CHERUVU.

THIS is a second-class Government tank situated about 4 miles east of Vellagodu village in Nandikotkur Taluq. In addition to the drainage from a combined catchment area of 2 square miles, it also receives about 35 cubic feet per second by a branch channel which is taken off from the supply channel of Peddamallalamma Cheruvu. The tank has a surplus weir 150 feet long, in good order and quite adequate. There is an irrigation sluice in good working order requiring only slight repairs. The bund is low and irregular in section. It is to be raised to 4½ feet above M. W. L., 4½ feet wide at top with side slopes of 1½ to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	38·05 feet.
Maximum water level do.	... ...	39·55 ,,
Level of top of bund do.	... ...	44·05 ,,

BENCH MARKS.

I.—B. M. on crest of existing weir	... ...	38·05 ,,
II.—B. M. on west wing wall of do.	... ...	42·06 ,,
III.—B. M. on face wall of sluice	... ...	40·63 ,,

Height of datum above Mean Sea Level ... 790·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}} - c. m^{\frac{2}{3}}$ ... ... C =550 ; c =100.

Area of free basin	... ...	1·25 sq. miles.
Number of tanks above	... ...	1
Combined catchment area	... ...	2·00 sq. miles.
Maximum flood discharge from combined catchment area	... ...	790·52 cub. ft. pr. sec.
Do. do. from supply channel	...	35·00 ,, ,,
Total do. to be provided for	...	825·52 ,, ,,

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at	38·50	150	825
Total maximum discharge provided for	...	...	825

DETAILS OF STORAGE.

Area of waterspread at F. S. L. ...	12·20 mills. sq. ft.
Greatest width of do. from bund ...	860 feet.
Class of bund	2nd class.
Capacity of tank at F. S. L.	32·00 mills. cub. ft.
Total annual storage	32·00 „

DETAILS OF IRRIGATION.

Ayacut area	175 acres.
Average cultivation during the past five years ...	46 „
Proposed ultimate area of irrigation	175 „
Water stored per acre of do.	·18 mills. cub. ft.
Ultimate irrigation per sq. mile of free catchment ...	140 acres.
Level of sill of existing sluice above datum ...	30·17 „

A longitudinal section of the bund showing details is shown on Plate VI.

The Financial details of this work are given in the statement at page 6.

RAMASAMUDRAM TANK GROUP.

Ramasamudram Tank Sub-Group.

No. 3, IRRIGATION WORK.

PEDDAMALLALAMMA CHERUVU.

THIS tank, lying about five miles to the east of the village of Vellagodu in Nandikotkur Taluq, is the uppermost in the group. It has a free catchment area of ·75 square mile, and also receives a supply from a jungle stream called Pangidi Vogu by a channel. The tank has no

surplus work at present; it is proposed to construct a weir 92 feet long at right flank as shown in sketch, Plate VI, Fig. 3. There is an irrigation sluice in good working order requiring only sundry repairs; the bund is to be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 1½ to 1 and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	30·00 feet.
Maximum water level do.	... ...	31·75 „
Level of top of bund do.	... ...	36·25 „

BENCH MARKS.

I.—B. M. on face wall of sluice	... ...	33·47 „
II.—B. M. on sill of do.	... ...	21·37 „

Height of datum above Mean Sea Level ... 830·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR,

Co-efficients for maximum discharge in formula $D.=C. M^{\frac{2}{3}}$	C.=	550
Area of free basin	...	·75 sq. miles.
Number of tanks above	...	*Nil.*
Combined catchment area	...	·75 sq. miles.
Maximum flood discharge from combined catchment area	...	454 cub. ft. per. sec.
Do. do. from supply channel	...	243·42 „
Total do. to be provided for	...	697·42 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub ft. per sec.
Proposed surplus weir effective at (*Vide* sketch, Plate VI, Fig. 3).	30·00	92	697·42
Total maximum discharge provided for	...	...	697·42

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	9·58 mills. sqr. ft.
Greatest width of do. do. from bund ...	1800 ft.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	27·49 mills. cub. ft.
Total annual storage	27·49 „
Capacity of tanks above	*Nil.*

DETAILS OF IRRIGATION.

Ayacut area	102 acres.
Average cultivation during the past five years ...	60 „
Proposed ultimate area of irrigation	102 „
Water stored per acre of do.	·27 mill. cub. ft.
Ultimate irrigation per square mile of free catchment	136 acres.
Level of sill of (existing) sluice above datum ...	21·37 ft.

A longitudinal section of bund showing details is given on Plate VI.

The Financial details of this work are given in the statement at page 6.

BANDIATMAKUR TANK GROUP.

Bandiatmakur Tank Sub-Group.

No. 1, IRRIGATION WORK.

BANDIATMAKUR TANK.

THIS is the lower tank of a group of two works, and is situated about 2½ miles to the east of the village of Bandiatmakur in Nandiyal Taluq. In addition to the drainage from a combined catchment area of seven square miles, it also receives a supply from Chitla Vogu by a channel. There are two surplus works of the aggregate length of 313 feet, which require only slight repairs and improvements for which provision is made

in the estimate. The existing irrigation sluice being ruined, a new sluice has to be built instead of it, and an additional sluice is also proposed to command the high level lands under the tank. The bund is to be raised to $4\frac{1}{2}$ feet above M. W. L. with a top width of $4\frac{1}{2}$ feet and side slopes of $1\frac{1}{2}$ to 1 and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	...	...	29·17 feet.
Maximum water level do.	...	...	30·67 ,,
Level of top of bund do.	...	...	35·17 ,,

BENCH MARKS.

I.—B. M. on crest of existing weir No. 1 ... 29·17 ,,

II.—B. M. on do. do. No. 2 ... 29·17 ,,

III.—B. M. on demarcation stone at left flank ... 32·68 ,,

Height of datum above Mean Sea Level ... 700·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}} - c. m^{\frac{2}{3}}$ ... ... C. = 550; c. = 100.
Area of free basin ... ... 3·50 sq. miles.
Number of tanks above 1
Combined catchment area ... ... 7·00 sq. miles.
Maximum flood discharge from combined catchment area ... ... 1782·00 cub.ft.pr.sec.
Do. do. from supply channel ... 130·00 „
Total do. to be provided for ... 1912·00 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing Surplus weir No. 1, effective at	29·17	253	1912·00
Do. do. No. 2, do.		60	
Total maximum discharge provided for	...	...	1912·00

DETAILS OF STORAGE.

Area of waterspread at F. S. L. ... ... 17·88 mills. sq. ft.
Greatest width of do. do. from bund ... 2442 ft.
Class of bund ... ... 2nd class
Capacity of tank at F. S. L. ... ... 35·76 mills. cub. ft.
Total annual storage ... ... 53·64 „

DETAILS OF IRRIGATION.

Ayacut area ... ... 271 acres
Average cultivation during the past five years ... 171 „
Proposed ultimate area of irrigation ... ... 271 „
Water stored per acre of do. ... ... ·19 mill. cub. ft.
Ultimate irrigation per square mile of free catchment. 77 acres
Level of sill of sluice No. 1, proposed above datum. 23·24 ft.
Do. do. No. 2, do. do. ... 25 12 „
(*Vide* sketches, Plate VII, Figs. 1 & 2).

A longitudinal section of the bund showing details is given on Plate VII.

The Financial details of this work are given in the statement at page 6.

BANDIATMAKUR TANK GROUP.

Bandiatmakur Tank Sub-Group.

No. 2, IRRIGATION WORK.

AMDALA CHERUVU.

This is a second-class Government tank, situated close to the Nallamalais, about 4½ miles east of the village of Bandiatmakur, in Nandyal Taluq. It has a free catchment area of 3·5 square miles, the drainage from which forms two natural streams called Kothralpadi Vogu and Onkaram channel, which flow into the tank. The surplus goes into the Bandiatmakur Tank. The tank has a surplus weir 200 feet long at right flank in good order. The existing irrigation sluice is also in good working order, requiring only sundry repairs. The bund is low and irregular in section; it will be raised to 4½ feet above M. W. L., 4½ feet wide at top with slopes of 1½ to 1 and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	35·69	feet.
Maximum water level do.	... ...	37·19	„
Level of top of bund do.	... ...	41·69	„

BENCH MARKS.

I.—B. M. on face wall of existing sluice	...	39·01	„
II.—B. M. on wing wall of existing weir	...	39·06	„
III.—B. M. on crest of do.	... ...	35·69	„

Height of datum above Mean Sea Level	...	730·00	„

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}}$	C. = 550.
Area of free basin	3·5 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	3·5 sq. miles.
Maximum flood discharge from combined catchment area	1267·86cub.ft.pr.sec.
Do. do. from supply channel. ...	*Nil.*
Total do. to be provided for ...	1267·86 ,,

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. feet per sec.
Existing surplus weir effective at ... ... (*Vide* sketch, Plate VII, Fig. 3).	35·69	200	1267·00
Total maximum discharge provided for	...	...	1267·00

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	1·43 mills. sq. ft.
Greatest width of do. do. from bund ...	2450 ft.
Class of bund	2nd class.
Capacity of tank at F. S. L.	4·86 mills. cub. ft.
Total annual storage	19·44 ,,

DETAILS OF IRRIGATION.

Ayacut area	168 acres.
Average cultivation during the past five years ...	98 ,,
Proposed ultimate area of irrigation	168 ,,
Water stored per acre of do.	·12 mill. cub. ft.
Ultimate irrigation per square mile of free catchment.	96 acres.
Level of sill of existing sluice above datum ...	28·88 ft.

(*Vide* sketch, Plate VII, Fig. 4).

A longitudinal section of the bund showing details is given on Plate VII.

The Financial details of this work are given in the statement at page 6.

AIYAVARIKODUR TANK GROUP.

Aiyavarikodur Tank Sub-Group.

No. 1, IRRIGATION WORK.

AIYAVARIKODUR TANK.

THIS second-class Government tank has a free catchment area of 2·25 square miles, and is situated close to the village of Aiyavarikodur, in Nandiyal Taluq. It forms the terminal work of the group, but the surplus of the upper tanks is obstructed by the irrigation canal, and only about 256·64 cubic feet per second is received into the tank through a culvert of two vents each 5′×2′ in the canal bank. The tank has a weir 60½ feet long, which being insufficient to dispose of the entire surplus, a roughstone paved bye-wash 91 feet long is to be added to the east of it. There are two irrigation sluices at present, both of which are out of order, and require reconstruction; a third sluice has to be constructed to command the extra land proposed to be brought under cultivation; the bund is to be raised to 4½ feet above M. W. L. with a top width of 4½ feet and side slopes of 1½ to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum		... ...	40·10 feet.
Maximum water level	do.	... ...	42·10 „
Level of top of bund	do.	... ...	46·60 „

BENCH MARKS.

I.—B. M. on crest of existing weir	... ...	40·10 „

Height of datum above Mean Sea Level ... 670·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M.^{\frac{2}{3}}$	C. = 500.
Area of free basin	2·25 sq. miles.
Number of tanks above (but not directly surplusing into the tank)	2
Combined catchment area	2·25 ,,
Maximum flood discharge from combined catchment area	858·85 cub. ft. pr. sec.
Do. do. from supply channel ...	256·64 ,,
Total do. to be provided for ...	1115·49 ,,

SURPLUS ARRANGEMENTS,

	Height above datum.	Length	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing surplus weir effective at	40·10	60·50	} 1115·49
Proposed bye-wash do. ... ... (*Vide* sketch, Plate VIII, Fig. 1).	40·10	91·00	
Total maximum discharge provided for	...	...	1115·49

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	9·15 mills. sqr. ft.
Greatest width of do. from bund ...	2375 ft.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	18·30 mills. cub. ft.
Total annual storage	58·00 ,,

DETAILS OF IRRIGATION.

Ayacut area	484 acres.
Average cultivation during the past five years ...	353 ,,
Proposed ultimate area of irrigation	484 ,,
Water stored per acre of do.	·12 mill. cub. ft.
Ultimate Irrigation per sqr. mile of free catchment..	215 acres.
Level of sill of sluice No. 1, proposed, above datum.	36·87 ft.
Do. do. 2, do. ...	33·92 ,,
Do. do. 3, do. ...	34·84 ,,

(*Vide* sketches, Plate VIII, Figs. 2, 3 & 4).

A longitudinal section of the bund showing details is given on Plate VIII.

The Financial details of this work are given in the statement at page 6.

AIYAVARIKODUR TANK GROUP.

Aiyavarikodur Tank Sub-Group.

No. 2, IRRIGATION WORK.

BOYOPPAKODUR TANK.

This tank situated near the village of Boyoppakodur, in Nandiyal Taluq, receives its supply from a free catchment area of 3·35 square miles and surpluses into the irrigation canal. The tank has a calingulah and a natural escape 83 feet and 231 feet long respectively; the calingulah is to be converted into a weir. There are two irrigation sluices in good order, requiring only slight repairs; a third sluice is also to be provided to command the extra land proposed to be brought under cultivation. The bund is low and irregular in section; it is proposed to raise it to $4\frac{1}{2}$ feet above M. W. L. with a top width of $4\frac{1}{2}$ feet, side slopes of $1\frac{1}{2}$ to 1 and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	50·50 feet.
Maximum water level do.	... ...	52·00 „
Level of top of bund do.	... ...	56·50 „

BENCH MARKS.

I.—B. M. on rest of existing weir ... ... 50·50 „

II.—B. M. on sill of low level sluice ... ... 44·83 „

Height of datum above Mean Sea Level ... 670·00 „

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D=C.\ M^{\frac{2}{3}}$	C.=550.
Area of free basin	3·35 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	3·35 sq. miles.
Maximum flood discharge from combined catchment area	1231·38 cub.ft.pr.sec.
Do. do. from supply channel ...	*Nil.* ,,
Total do. to be provided for ...	1231·38 ,,

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub ft. per sec.
Existing calingulah (to be converted into a weir) effective at ...	50·50	83	1231·38
Do. bye-wash do.	50·50	231	
Total maximum discharge provided for	...	...	1231·38

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	4·57 mills. sqr. ft.
Greatest width of do. do. from bund ...	1200 feet.
Class of bund	2nd class.
Capacity of tank at F. S. L.	13·71 mills. cub. ft.
Total annual storage	46·51 ,,

DETAILS OF IRRIGATION.

Ayacut area	273·56 acres.
Average cultivation during the past five years ...	185·61 ,,
Proposed ultimate area of irrigation	273·56 ,,
Water stored per acre of do.	·17 mill. cub. ft.
Ultimate irrigation per square mile of free catchment	82 acres.
Level of sill of sluice No. 1 (low level) above datum	44·83 ft.
Do. do. 2 (high level) ...	45·56 ,,
Do. do. 3 (proposed) ...	46·51 ,,

(*Vide* sketch, Plate IX, Fig. 1).

A longitudinal section of the bund showing details is given on Plate IX.

The Financial details of this work are given in the statement at page 6.

AIYAVARIKODUR TANK GROUP.

Aiyavarikodur Tank Sub-Group.

No. 3, IRRIGATION WORK.

KADAMALA KALVA TANK.

THIS tank is situated close to the Nallamalais, about a mile south-east of the village of Kadamala Kalva, in Nandiyal Taluq. It receives its supply from a free catchment area of 2·75 square miles and surpluses into the Irrigation canal. There are two weirs 185 and 36 feet long respectively, requiring only sundry repairs. The tank has only one sluice at present, which is in good working order, needing only sundry repairs; an additional sluice has also to be provided to command the lands on high level. The bund is to be raised to 4½ feet above M. W. L., 4½ feet wide at top with side slopes of 1½ to 1, and 2 to 1 in front and rear respectively.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ...	26·57 feet.
Maximum water level do.	... ...	27·82 ,,
Level of top of bund do.	... ...	32·32 ,,

BENCH MARKS.

I.—B. M. on crest of existing weir No. 1 ... 26·57 ,,

II.—B. M. on do. do. ,, 2 ... 26·57 ,,

III.—B. M. on retaining wall of existing sluice ... 30·63 feet.

Height of datum above Mean Sea Level ... 730·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D = C. M^{\frac{2}{3}}$	C. =550.
Area of free basin	2·75 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	2·75 sq. miles.
Maximum flood discharge from combined catchment area	1079·57 cub. ft. pr. sec.
Do. do. from supply channel ...	*Nil.*
Total do. to be provided for ...	1079·57 "

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. feet per sec.
Existing surplus weir No. 1, effective at	26·57	185	} 1079·57
Do. do. No. 2 do.	26·57	36	
Total maximum discharge provided for	...	...	1079·57

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	6·86 mills. sqr. ft.
Greatest width of do. do. from bund ...	1020 feet.
Class of bund	2nd class.
Capacity of tank at F. S. L.	20·51 mills. cub. ft.
Total annual storage	41·02 "
Capacity of tanks above	*Nil.*
Do. do. provided with adequate surplus works	*Nil.*
Do. do. not provided do do ...	*Nil.*

DETAILS OF IRRIGATION.

Ayacut area	249·51 acres
Average cultivation during the past five years ...	163·26 „
Proposed ultimate area of irrigation	249·51 „
Water stored per acre of do	·16 mill. cub. ft.
Ultimate irrigation per square mile of free catchment	90 acres.
Level of sill of sluice No. 1, from (existing) above datum	17·61 ft.
Do. do. No. 2, proposed ...	21·73 „

(*Vide* sketch, Plate IX, Fig. 2).

A longitudinal section of the bund showing details is given on Plate IX.

The Financial details of this work are given in the statement at page 10.

AIYAVARIKODUR TANK GROUP.

Aiyavarikodur Tank Sub-Group.

No. 4, IRRIGATION WORK.

KRISTNANANDI SPRING CHANNEL.

This is a small natural channel taking its rise in the springs at the foot of the Nallamalai hills, about 3 miles from the village of Kadamala Kalva, in Nandiyal Taluq, and entering the Kadamala Kalva tank after supplying a direct irrigation of 136·47 acres. It is affected by a cross drainage of ·70 square mile, the discharge from which is to be passed through an outlet proposed to be built at its tail end—*Vide* sketch, Plate IX, Figure 3. The channel has an average fall of 11·5 feet per mile, bottom width 8 feet, side slopes of $1\frac{1}{2}$ to 1, and depth of water, 2 feet.

There are no sluices in the channel bank at present; it is proposed to provide three cheap sluices at the places shown in the longitudinal section as per sketch (Plate IX, Fig. 4).

The left bank of the channel is very low and irregular in section; it is proposed to raise it to an average height of 3 feet above full supply level, 3 feet wide at top with side slopes of $1\frac{1}{2}$ to 1.

BENCH MARKS.

B. M. on demarkation stone opposite east side of proposed sluice No. 1 ... 37·54 feet

Height of datum above Mean Sea Level ... 730·00 ,,

A longitudinal section of the bund showing details is given on Plate IX.

The Financial details of this work are given in the statement at page 10.

NANDYAL TANK GROUP.

Nandyal Tank Sub-Group.

No. 1 & 1-A, IRRIGATION WORK.

NANDYAL TANK.

This tank is situated close to Nandyal, and is divided into two portions by a road passing through it; the northern portion is called Chinna Cheruvu (small tank), and the southern portion Pedda Cheruvu (large tank): they are connected by four road culverts and are treated as one tank. Besides the drainage from its free basin of 24 square miles, the tank gets a supply from the irrigation canal through two sluices, and, in addition, receives the drainage of the Paleru and Mahanandy streams from the Nallamalai hills, embracing a combined catchment area of 83 square miles; these streams cross the irrigation canal by two masonry under-

tunnels, the Mahanandy running into the Chinna Cheruvu (small tank) and the Paleru into the Pedda Cheruvu (large tank). There are five masonry calingulahs (the dam stones of which will be removed, the crest being at F. S. L. of the tank) of the aggregate length of 734 feet, sufficient to dispose of the entire surplus of the tank. These surplus works are in good working order, but as they leak a little, puddle walls are to be formed in front of the body walls. There are altogether nine irrigation sluices, in good order, requiring only sundry repairs. The bund, wherever low, is to be raised to $4\frac{1}{2}$ feet above M. W. L. with a top width of 6 feet and side slopes of $1\frac{1}{2}$ to 1, and 2 to 1 in front and rear respectively. The cross bund between Pedda and Chinna Cheruvu carries a metalled road which is maintained by the Local Fund Department.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained :—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	40·00 feet.
Maximum water level do.	42·00 ,,
Level of top of bund do.	46·50 ,,

BENCH MARKS.

I.—B. M. on face wall of sluice No. 1	43·33 ,,
II.—B. M. on face wall of sluice No. 2	43·94 ,,
III.—B. M. on wing wall of weir at south-east end of bund	44·46 ,,
IV.—B. M. on top of parapet of sluice connecting the two tanks	43·29 ,,

V.—B. M. on south-east wing wall of weir at north-east end of bund ... ... 46·15 feet.

Height of datum above Mean Sea Level ... 670·62 „

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Area of free basin	...	... ...	24·00 sq. miles.
Number of tanks above	...	... ...	2 jungle streams.
Combined catchment area	...	... ...	83·00 sq. miles.
Maximum flood discharge from combined catchment area	...	... ...	7040 cub. ft. pr. sec.
Do.	do.	from channel ...	*Nil.*
Total	do.	to be provided for ...	7040 „

SURPLUS ARRANGEMENTS.

	Height above datum.	Length.	Maximum discharge.
	Feet.	Feet.	Cub. ft. per sec.
Existing calingulahs from 1 to 5 (to be converted into surplus weir) effective at ... ... (*Vide* sketches, Plate XI, Figs, 1, 2, 3, 4 & 5.)	40·00	734	7040
Total maximum discharge provided for	...	...	7040

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	...	...	34·50 mills sq. ft
Greatest width of do. do. from bund		...	4000 feet.
Class of bund ...	...	... ...	2nd class.
Capacity of tank at F. S L.	...	...	138·00 mills. cub. ft.
Total annual storage	...	... ...	231·00 „

DETAIL OF IRRIGATIONS.

Ayacut area				1091·00	acres.
Average cultivation during the past five years ...				1078	„
Proposed ultimate area of irrigation				1091	„
Water stored per acre of do.				·21	mills. cub. ft.
Ultimate irrigation per square mile of free catchment.				44·6	acres.
Level of sill of sluice No.		1	(existing) above datum..	29·43	ft.
Do.	do.	2	do.	25·89	„
Do.	do.	3	do.	25·09	„
Do.	do.	4	do.	30·49	„
Do.	do.	5	do.	33·83	„
Do.	do.	6	do.	33·60	„
Do.	do.	7	do.	35·75	„
Do.	do.	8	do.	29·50	„
Do.	do.	9	do.	24·00	„

A longitudinal section of the bund showing details are given on Plate X.

The Financial details of this work are given in the statement at page 10.

NANDYAL TANK GROUP.

Nandyal Tank Sub-Group.

No. 2, IRRIGATION WORK.

TAMBALAPALLI TANK.

THIS tank is situated about half a mile east of the village of Tambalapalli, in Nandyal Taluq. In addition to the drainage from its own free catchment area of 2·5 square miles, it receives a supply from Doravi Nalla and Mahanandi spring channels; the average supply expected from these two sources is 35 and 45 cubic feet per second respectively. The tank has three surplus works, *viz.*, a weir 48 feet long, natural escape 200 feet long, and a roughstone paved bye-wash 90 feet long; the first two works are in good order requiring only slight repairs, and are sufficient to dispose of the entire surplus of the tank. The last is in a bad state of

repair, and, as it is not wanted, will be closed; there is one irrigation sluice in good order. The bund is to be raised to 4½ feet above M. W. L., with a top width of 4½ feet and side slopes of 1½ to 1.

The following are the Hydraulic details of this work, indicating the standard of efficiency at which it should be maintained:—

STANDARD LEVELS TO BE MAINTAINED.

Full supply level above datum	... ..	42·50 feet.
Maximum water level do.	... ...	44·00 „
Level of top of bund	... ...	48·50 „

BENCH MARKS.

I.—B. M. on east wing wall of existing weir	...	45·55 „
II.—B. M. on crest of existing weir	... ...	42·50 „
III.—B. M. on face wall of sluice	... ...	48·68 „

Height of datum above Mean Sea Level ... 700·00

MAXIMUM DISCHARGE TO BE PROVIDED FOR.

Co-efficients for maximum discharge in formula $D=C.M^{\frac{3}{4}}$	C.=550
Area of free basin	2·50 sq. miles.
Number of tanks above	*Nil.*
Combined catchment area	2·50 sq. miles.
Maximum flood discharge from combined catchment area	920 cub. ft. pr. sec.
Do. do. from supply channels (35+45) ...	80 „
Total do. to be provided for ...	1000 „

SURPLUS ARRANGEMENTS.

	Height above datum	Length.	Maximum discharge.
	Feet.	Feet.	Cub. feet per sec.
Existing surplus weir effective at	42·50	48	1000·00
Do. bye-wash do.	42·50	200	
Total maximum discharge provided for	...	...	1000·00

DETAILS OF STORAGE.

Area of waterspread at F. S. L.	8·82 mills. sq. ft.
Greatest width of do. from bund ...	1300 feet.
Class of bund	2nd class.
Approximate capacity of tank at F. S. L. ...	20·37 mills. cub. ft.
Total annual storage	30·55 „

DETAILS OF IRRIGATION.

Ayacut area	133 acres.
Average cultivation during the past five years ...	133 „
Proposed ultimate area of irrigation	133 „
Water stored per acre of do.	23 mills. cub. ft.
Ultimate irrigation per square mile of free catchment	53 acres.
Level of sill of sluice above datum ...	37·89 feet.

A longitudinal section of the bund showing details is given in Plate XI.

The Financial details of this work are given in the statement at page 10.

NANDIYAL TANK GROUP

Nandiyal Tank Sub-Group.

No. 3, IRRIGATION WORK.

REPORT ON THE DORAVI NALA SPRING CHANNEL.

The Doravi Nala is a spring channel rising at the foot of the Nallamalais, about two miles to the north-west of the Mahanandi temple. It enters the Tamballapalli tank.

With the exception of about ½ square mile of cross drainage which this channel intercepts, it is entirely supplied from the above-mentioned springs.

The maximum discharge from the channel is probably from 20 to 50 cubic feet per second.

The length of the channel is 2½ miles, and the area of the land irrigated by it 84·10 acres. (*Vide* statement of Financial details). The channel is in fairly good condition, and the trifling repairs required to maintain it should be carried out by the ryots interested.

No masonry works have been constructed, and none are considered necessary.

NANDIYAL TANK GROUP.

Nandiyal Tank Sub-Group.

No. 4, IRRIGATION WORK.

REPORT ON THE MAHANANDI CHANNEL.

This channel has its source at the foot of the Nallamalais, near the Mahanandi temple, and is entirely supplied from perennial springs near that place. The maximum discharge from it may be estimated at 75 cubic feet per second, and the ayacut which it commands is 304·03 acres. The length of the channel is eight miles, and it enters Nandiyal tank.

The main channel is in good condition and requires no repairs. Only clearing and some trifling work is required, which should be carried out by the ryots concerned as usual. No masonry works have been constructed, and none are considered necessary.

NANDIYAL TANK GROUP.

Nandiyal Tank Sub-Group.

No. III, IRRIGATION WORK.

REPORT ON THE AYAVARIPALLI CHANNEL.

This channel receives its supply from the Nippula Vagu, which is a branch of tl Kauli river. Just below the head of the channel a temporary dam of roughston and earth is thrown across the Vagu by interested ryots after every flood.

The drainage area of Nippula Vagu above the point where the channel tak off is 31½ square miles, and the calculated maximum discharge over the dam is 5485·7 cubic feet per second. The supply drawn off by the channel probably varies fron 20 to 50 cubic feet per second, the latter being the maximum quantity the channel i capable of discharging.

The channel has an open head with a bottom width of 3 to 4½ feet.

The channel is 2,730 feet long, and the area of the land irrigated by it is 25·56 acres; it is in fairly good condition, and the trifling repairs required to maintain it are carried out by the interested ryots.

The channel receives a cross drainage of ten square miles and finally discharges back into the Vagu.

No masonry works have been constructed and none are considered necessary.

H. E. CLERK,
Assistant Chief Engineer for Irrigation
in charge, T. R. Scheme.

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